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ABSTRACT

This book is intended as a resource for educators engaged in the pursuit of quality and excellence. Specifically, Total Quality Management (TQM)--defined as a way of thinking and working to achieve continuous improvement through employee involvement and a focus on customers--is applied to education. Following the introduction, the first two chapters provide an overview of the national productivity and educational crisis in America. Chapter 3 describes the tenets of TQM, or organizational transformation, and chapter 4 discusses the basics of TQM in education. The fifth chapter provides a framework for analyzing ideas and innovations in education, which is useful for integrating TQM and improvement initiatives. A case study of the Bluebonnet Hill School District (Texas) is offered in chapter 6. The seventh chapter discusses ways to integrate TQM with other educational innovations, such as school-based decision making, effective schools, strategic planning, and outcome-based education. The final chapter examines challenges for leadership in constructing a new educational culture. Appendices contain seven basic tools, Deming's 14 Points, a list of design team members, and a description of National LEADership Network Study Group on Restructuring Schools activities. (LMI)

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TOWARD QUALITY IN EDUCATION

THE LEADER'S OBLIGATION

National LEADership Network Study Group on Restructuring Schools

Office of Educational Research and Improvement
U.S. Department of Education

EA 025 311

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This resource guide was developed through a grant to the National LEADership Network Study Group on Restructuring Schools from the National LEADership Network, co-directed by the Institute for Educational Leadership (IEL) and the Office of Educational Research and Improvement (OERI). Funding was provided by the Kraft General Foods Foundation three-year grant to the National LEADership Network to support Network activities. The Texas LEAD Center served as fiscal agent for the grant.

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TOWARD QUALITY IN EDUCATION

THE LEADER'S ODYSSEY

National LEADership Network Study Group on Restructuring Schools

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U.S. Department of Education

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September 1993

Toward Quality in Education: The Leader's Odyssey

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Knowledge that the prevailing style of management must change is necessary but not sufficient. We must know what changes to make. There is in any journey an origin and a destination. The origin is the prevailing style of management. The destination is transformation. The transformation will lead to adoption of what we have learned to call a system, and optimization of performance relative to the aim of the system. The individual components of the system, instead of being competitive, will for optimization reinforce each other for accomplishment of this aim. The same transformation is required in government and education.

— W. Edwards Deming
Quality, Productivity, and Competitive Position,
September, 1992, p. 60.

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The following members of the National LEADership Network Study Group on Restructuring Schools conceptualized this publication during a 3-day, design team meeting in Austin, Texas, in June, 1992 on the basis of extensive preparation:

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Preface

In June, 1992, members of the National LEADership Network Study Group on Restructuring Schools met in Austin, Texas, to discuss how the study group could best address its perceived need for a resource that would assist educators in understanding the relationship of Total Quality Management (TQM) to other major educational innovations. The development of this document evolved from the intense deliberations of the study group during the several days they met as a whole and over the ensuing months as they worked as individuals to complete the project.

The LEAD Study Group participants who worked on the development of this document include LEAD Directors from Arkansas, California, Colorado, Kentucky, Maine, Nevada, New Hampshire, Oregon, and Texas; representatives of the Southwest Educational Development Laboratory; and the U. S. Department of Education's Office of Educational Research and Improvement (OERI).

To the task of preparing a resource to assist educators in developing an understanding of the quality movement in education, the study group members brought the experiences of LEAD Centers working with corporate partners to bring TQM training and/or other forms of organizational effectiveness training from the private sector into the public schools. The group's work was greatly enhanced by the personal expertise of members with specialized training in the areas of leadership, organizational change, and TQM. The group's knowledge and understanding of education was also a key asset. As experienced educators from across the nation, the group's members were able to consider the impact of current restructuring initiatives and educational innovations from multiple perspectives.

As providers of professional development services, the study group members were, and remain, acutely aware of the growing confusion in education related to the role that innovations such as outcome-based education (OBE), processes like strategic planning, and governance initiatives like school-based management (SBM) play in the quest for educational excellence and quality. To address this confusion, the study group decided to develop a document that would introduce interested school administrators, teachers, school board members, parents, and community members to the philosophy and workings of Total Quality Management (TQM). The document would then examine how aspects of programs and initiatives currently underway relate to, complement, and support TQM as an overall framework for continuous improvement in schools. However, as the members of the study group reflected in more depth on what the publication should accomplish, the group's declared intent became the development of a document that would provoke discussion and dialogue regarding leadership for continuous improvement within educational organizations.

Toward Quality in Education: The Leader's Odyssey is the result of the efforts of the study group to create a resource for educators that stimulates reflection upon the type of leadership required for organizational transformation in education. As noted in the quote from Deming, the process of transformation can be likened to a journey—an odyssey. Venturers in the unexplored territory of TQM soon learn that there is no map or step-by-step chart to guide its implementation in education. The experiences of others can only serve as sources of information and sign posts. Therefore, it is hoped that this document will provoke meaningful thought and

discussion about TQM and organizational transformation as one means of learning more about the promises and pitfalls awaiting those who enter these new frontiers of theory and practice. If, as a result of reading this publication, educators are encouraged to continue their odyssey of discovery—thoughtful and systematic exploration and investigation of the concepts of TQM—the purpose of the study group will have been accomplished. Bon voyage!

Introduction

As noted in the preface, *Toward Quality in Education: The Leader's Odyssey* is intended as a resource for educators engaged in the pursuit of quality and excellence. This immediately brings into question what is meant by quality and excellence. *Webster's New World Dictionary of the American Language* defines quality as "the degree of excellence which a thing possesses" and excellence as "the fact or condition of excelling; superiority; surpassing goodness, merit."

These definitions of quality and excellence imply that there is a direct link between quality and being *the best* at what you do regardless of what it is that you are doing. The problem of assuming that quality is solely determined by "doing well whatever it is that you do best" is illustrated in the foilowing example. A manufacturer of radios produces a premium, top-of-the-line vacuum tube radio for household use. The radio case is finely crafted, the vacuum tubes are state-of-art vacuum tubes, the price is reasonable, and the radio works like a gem. Despite the quality of its product, the manufacturer goes out of business because of a lack of sales. The product, even though it is of the highest quality as determined by its producer, does not meet the need of the customer. It is this dimension of quality that is frequently overlooked in discussions of the concept.

Webster's New World Dictionary of the American Language defines quality as "the degree of excellence which a thing possesses" and excellence as "the fact or condition of excelling; superiority; surpassing goodness, merit."

This other dimension or look at the meaning of quality, however, is a central theme in the work and teachings of the three acknowledged American gurus of quality improvement. W. Edwards Deming (1992, p. 2) states that "a product or service possesses quality if it helps somebody and enjoys a good and sustainable market." Joseph M. Juran defines quality as "fitness for use," and Phillip Crosby speaks of quality as "conformance to requirements." Ultimately, the standard of excellence which marks an endeavor or product as possessing quality is determined by the user—the customer or client. When customer

expectations and requirements are clearly defined, quality is then determined by whether the customer's expectations and requirements are met or exceeded time after time after time.

Although Deming, Juran, and Crosby define quality in slightly differing ways and offer different approaches to addressing quality improvement, the three experts share similar views on major quality concepts. All three teach that quality improvement is an ongoing process, not a one-time project or activity, and is crucial to America's survival in the world marketplace. The three also agree that the commitment to quality improvement must begin with those who have the power to make it happen—the top management in an organization. Once committed to quality improvement, it is management's responsibility to build the commitment throughout the organization or the effort will not succeed.

Quality improvement is an ongoing process, not a one-time project or activity, and is crucial to America's survival in the world marketplace.

Quality improvement, the three experts agree, requires a change in attitude—the development of a new management philosophy. This new philosophy of management or attitude significantly changes the culture of the organization. The system, not the employee, is viewed as the major cause of quality problems. Since the system has been designed and implemented by management, management is responsible for ensuring that the system engages in continuous improvement in order to maintain organizational viability. It is, however, impossible for management to accomplish this task alone and from on high. Knowing that those closest to a process have the most knowledge about it, Deming, Juran, and Crosby urge management to create new partnerships with employees by enabling and empowering them to make work-related decisions to improve quality. Employees who have ownership in their work also see themselves as responsible for its quality. These concepts, the three experts acknowledge, are simple, but the practice of

quality improvement, they warn, is far from easy.

Although not coined by the three American quality experts, the term Total Quality Management (TQM) has come to represent the practice of quality improvement, especially in America. In the simplest of terms TQM may be defined as a way of thinking and working to *achieve continuous improvement through employee involvement and a focus on customers.* TQM is not viewed as an end, but as a continuous pursuit of organizational effectiveness that all would regard as *quality.* TQM reflects the commitment and involvement of all employees in an organization to the delivery of products or services which the users (customers or clients) judge as meeting or exceeding their expectations.

TQM may be defined as a way of thinking and working to *achieve continuous improvement through employee involvement and a focus on customers.*

Deming, although he never uses the term TQM, is regarded as the founder of the TQM movement. Juran, Crosby, and A. V. Feigenbaum — along with Kaoru Ishikawa and Genichi Taguchi of Japan—are also considered to be major contributors. The roots of TQM are in America where the concepts of quality improvement have slowly evolved since the early 1900s. The first country, however, to invest heavily in the idea of quality improvement was postwar Japan. With four decades of investment in quality improvement practices and resulting economic successes, the Japanese have developed a strong societal commitment to quality improvement. America in the late 1970s rediscovered the need for quality improvement, and the TQM movement in this country gained tremendous momentum during recent years. Guided by the principles established by Deming and the other quality experts, organizations are working hard to implement TQM and to transform themselves.

All of the quality improvement experts speak of the need for leadership and that the commitment to TQM must first be made by the leaders. At times, the word *leader* appears to mean only the chief

executive officer (CEO) and at other times it appears to refer to those occupying traditional management or supervision positions. The term *leader*, at least in Deming's writings, would seem to apply to anyone who ensures the success of others and the organization by following the principles of quality improvement. Thus, a unit manager or supervisor may be viewed as a leader even as the CEO is viewed as a leader. Aguayo (1991) suggests using the word *supervisor* to describe the person practicing traditional management and employing the word *leader* to describe the person acting on the commitment to quality improvement. The leader's role is a critical one in TQM, but is not the exclusive domain of the president, CEO, or superintendent. Without the commitment of the chief leader, the organization cannot move forward in the total quality improvement effort. Without the commitment of all the leaders in the organization, the momentum of TQM cannot be sustained.

The term *leader*, at least in Deming's writings, would seem to apply to anyone who ensures the success of others and the organization by following the principles of quality improvement.

Reflection: The National Crisis—What Happened to America?

A Hare was once boasting about how fast he could run when a Tortoise, overhearing him, said, "I'll run you a race." "Done," said the hare and laughed to himself; "but let's get the Fox for a judge." The Fox consented and the two started. The Hare quickly outran the Tortoise, and knowing he was far ahead, lay down to take a nap. "I can soon pass the Tortoise whenever I awaken." But unfortunately, the Hare overslept himself; therefore when he awoke, though he ran his best, he found the Tortoise was already at the goal. He had learned that "Slow and steady wins the race." (Æesop, *The Tortoise and the Hare*)

For a quarter of a century following World War II, the United States enjoyed an unrivaled state of hegemony (leadership or dominance over other nations), primarily on the basis of its economic superiority. Unlike its former enemies and allies, America experienced an economic boom as postwar scarcity created an almost inexhaustible demand for American products. America's economic, political, and cultural clout was felt throughout the world. However, the decade of the 1980s was a time of awakening for American organizations in both the private and public sectors. Analogous to the hare in the ancient Æesop fable, 1970s America had slumbered and rested on past accomplishments as other countries worked diligently to rebuild their war-ravaged industrial bases.

Experiencing decades of unchallenged leadership, Americans were lulled into thinking that the United States' leadership position in the world was permanently secured. The nation awoke in the late 1970s to learn that not only was America's status not permanently

secure, it was crumbling. Americans were forced to confront a harsh reality—the United States was losing its leadership role in the world marketplace, international government, and education. America's postwar consumers had become her fiercest competitors, and the change had occurred so gradually and quietly that it could be understood only in retrospect. Like the tortoise in the Æesop fable, other nations had worked slowly and steadily to rebuild and were now first class competitors.

The first stirrings of awareness and rousings from lethargy occurred in business and government as the obvious impact of an impending economic crisis became apparent in the late 1970s. Once the browbeating and scapegoating stages were past, it became clear to those studying the issue of America's decline that *quality* was the primary differentiator between American products and services and those of its more successful competitors. Americans themselves increasingly preferred foreign-made products and services because of their superior quality. American government was seen as wasteful, self-serving, and unconcerned with quality. The great American experiment in education was producing students whose academic achievement was frequently ranked lower than the academic achievement of students of other industrialized countries. Concern for quantity seemed more characteristic of American enterprise than concern for quality.

Identifying the Problem

To acknowledge that quality was missing from American enterprise was bitter medicine for many and not easily accepted. American tradition spoke to being first and best. Pride of workmanship and quality had certainly been part of early American endeavors. However, upon close investigation and study, it was obvious that the

diagnosis was correct. Somehow over the years, perhaps during long periods of economic supremacy when there was little competition, quality had become a secondary issue in American undertakings. Naively or perhaps smugly, Americans had assumed that "made in America" assured a competitive edge in the marketplace and world community. Production improvement was the forte of American management. Only in retrospect and in the midst of crisis, did the real threat to America's well-being become apparent. By focusing on production and not on quality, America had given its foreign competitors an unmistakable advantage. The threat was internal and not external in origin.

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Learning from the Competition

When faced with the possibility that America would enter the twenty-first century as a second-class competitor unless the downward spiral was reversed, Americans turned their attention to learning the secrets of their successful competitors, especially the secrets of their most successful competitor—Japan. American management was ready to copy and import to America whatever was working successfully in Japan. Looking for quick fixes, American leaders learned that Japanese organizations used *quality circles*, so American organizations implemented *quality circles* in the workplace and in education. When Americans discovered that their competitors trained their employees in the use of a specific set of tools and techniques, American employees were trained in the use of control charts, Pareto charts, fishbone diagrams, run charts, histograms, scatter diagrams, and flow charts. When American management learned that the revitalization of Japanese industry had been guided by the teachings of two American consultants, W. Edwards Deming and Joseph M. Juran, managers flocked to seminars

taught by these gurus of quality improvement and competed with one another to employ them as consultants. Quality, quality improvement, and total quality management (TQM) became management buzzwords.

To the dismay of many, the *secrets* Americans learned from their competitors did not translate into quick fixes. Bluntly, in a soon-to-be familiar, no-nonsense style, Deming placed the blame for America's organizational ills on the prevailing system of management used in business, government, and education. In Deming's view, only management's long-term commitment to quality improvement would salvage the situation for America. Industry, education, and government must be transformed in order to prevent national demise. America's organizational salvation, Deming taught and continues to teach, is the development of a philosophy of management that creates an organizational culture in which continuous learning and quality are valued.

America's organizational salvation, Deming taught and continues to teach, is the development of a philosophy of management that creates an organizational culture in which continuous learning and quality are valued.

At the Crossroads

In the 1990s, the United States stands at a critical juncture in its development. Will America seek to regain its former position in the marketplace, in government, and in education by trying to make past practices more efficient and productive or will a new course be chosen? Will the nation's enterprises commit to quality improvement? Can a nation noted for its individualism and competitiveness in every aspect of personal and organizational life learn to value interdependence and cooperation? Will education, business, and government in America be transformed so that the society and nation can survive in a world that is rapidly changing? The decisions that are made at this time of transition and at this particular moment in history will determine the future. Will the future be one of vitality or demise?

Reflection: The Education Crisis—What Happened to Education?

> *One time the Mice were greatly bothered by a Cat; therefore, they decided to hold a meeting to talk over what could be done about the matter. During the meeting, a Young Mouse arose and suggested that a bell be put upon the Cat so that they could hear him coming. The suggestion was received with great applause, when an Old Mouse arose to speak. "That's all right," he said, "but who of us would dare to hang a bell around the Cat's neck?" Seeing their looks of fear, he added, "You know it is often much easier to suggest a plan than to carry it out."* (Æesop, *Belling the Cat*)

As concerned business and government leaders turned their attention to the reversal of America's downward spiral, a common theme emerged—the American educational system was not working. At the very time when America needed a highly skilled work force to prevent further losses in commerce, industry, science, and technology, the data strongly suggested that the public education system was not preparing individuals for entry into such a work force. Millions of Americans were functionally illiterate by even the simplest literacy measures. Business and the military were expending millions of dollars annually to provide remedial education in basic skills for employees and enlistees. The American education system was failing its students and the nation.

Through an historically unparalleled series of events, reports, and forums, stakeholders in the American educational system—students, parents, educators, community members, government, and business—were made aware of, and convinced of, the need to improve

elementary and secondary education as a critical means of addressing the grave social, economic, and political problems facing the nation. The media called attention to American students' poor performance when compared with students from other countries. Legislatures passed hundreds of statutes aimed at improving education. The existing education system was challenged—the gauntlet thrown down. Education, along with business and government, had to be transformed if America was to survive.

A Familiar Theme

Public demands for educational change, however, are not new or unfamiliar. After each war or national crisis, some type of educational reform has been sought. In fact, in virtually every decade of the twentieth century there has been discussion of the need for educational change. Typically, these discussions involved a small number of interested parties, were short-lived, and quietly faded away after affecting only a few. Comments such as "this too shall pass" or "here we go again" suggest that many educators have viewed the brief flurries of activity generated by earlier calls for educational change simply as something to be endured.

When change is understood as total replacement or becoming distinctly different, it is evident that education has changed very little since its inception in the 1800s.

Interestingly, many educators respond to demands that education must change by replying that a major problem in education is the frequency of change. This revealing response indicates that, in many cases, educational faddism is confused with change. When change is understood as total replacement or becoming distinctly different, it is evident that education has changed very little since its inception in the 1800s. Significant changes in education, when they have occurred, have tended to be responses to legal or societal issues, e.g., desegregation of the schools. On the other hand, faddism—interest in an innovation or

custom for a short time—has been so much a part of the educational scene that critics and observers of American schooling often make note of American education's fondness for fads as *educational fad du jour.*

Perhaps mistakenly driven by a false belief in the existence of *a solution* to all educational problems, American educators have been relentless in their pursuit of new programs, texts, and methods in order to improve educational processes. Observers even note a predictable pattern of emphases in American schooling. Beginning in the 1880s and at approximately twenty-year intervals thereafter, there has occurred a discernible shift back and forth between emphasis on the needs of the learner and emphasis on what is to be learned. Perhaps familiarity with the fleeting nature of educational fads of the past and the predictable shifting of emphases caused some educators to exhibit a nonchalant attitude when recent mandates for change were issued—"I was here before we started this and I will be here after it goes away."

Perhaps familiarity with the fleeting nature of educational fads of the past and the predictable shifting of emphases caused some educators to exhibit a nonchalant attitude when recent mandates for change were issued—"I was here before we started this and I will be here after it goes away."

A Different Experience

The pressures for reform that began in the 1980s and continue into the 1990s are different in intensity and duration from previous calls for change. During the early 1980s, educators experienced a wave of reform that demanded that teachers and administrators do *more* of what they had been doing and do it *better*. The existing educational system was to be fine-tuned by requiring *more* testing of teachers and students, *higher* standards for graduation and teacher certification, *more* closely defined curriculum, *more* carefully selected textbooks, and *more* accountability. Coalitions of concerned citizens—parents, educators, elected officials, business and industry leaders, private citizens—offered solutions to *fix* education. Fixing education was viewed

primarily as a *people* problem. The existing educational system would improve if people were smarter and worked harder. In contrast to previous calls for change in education, this mandate for educational reform not only refused to die off quietly, but rather affected everyone associated with the educational enterprise.

By the mid-1980s, it was increasingly evident that the quick fixes—patches or band-aids—prescribed from the top were not going to significantly change the situation. Demanding that educators do more of the same or do the same things better did not produce the desired results no matter how long or hard people worked. To improve education in America, systemic change was needed. An out-of-date educational system designed to meet the needs of the industrial age could not meet the needs of an information-age society. The American education system needed to be restructured and transformed, not reformed, in order to meet the challenges of the twenty-first century. It was also realized that systemic change could not be mandated by those outside the system and carried out by educators alone. Educators need to provide leadership and be actively involved in the decision making related to educational change; however, they cannot bring about the needed changes without the help of others. For this call for change, unlike any previous call, challenges the way things are done in American education. Educators are challenged to recreate, or at least rethink, the structure and culture of the organization. Parents and others are challenged to think about the future and not about "how we did it when we were in school." It has frequently been suggested that unless a serious overhauling of the education system takes place, public education is doomed.

Educators need to provide leadership and be actively involved in the decision making related to educational change; however, they cannot bring about the needed changes without the help of others.

What Has Been Learned

For the educator who intellectually understands and emotionally accepts that the educational system must change, the questions are numerous. What system will best serve the students? How can success be assured for students? How do I convince others of this need? How do I involve others? What innovations are best? What kind of new organization needs to be created? What can I do to be a catalyst for change? How can I promote excellence? Where do we start?

Good practice suggests that the first step in any undertaking is to analyze what is known about the current situation. The following conclusions reflect the experiences of recent years:

- A quality educational system is essential to the economic, political, and social welfare of the United States.
- Asking or demanding that people work harder and do more of what has always been done in the way it has always been done will not produce the needed changes or results in education.
- The current educational system is structured and organized to meet the needs of an age and society that no longer exist. The system must be restructured to meet the needs of a society entering the twenty-first century.
- There is no commonly held agreement about the purposes and outcomes of public education in America.
- The concept of restructuring—major changes in the rules, roles, and relationships in education—means changing the culture of the organization. People resist changing the culture of an organization because it means giving up "what we know and how we have always done things."
- Educators cannot make the needed changes in public education alone. The "public" nature of the institution makes

There is no commonly held agreement about the purposes and outcomes for public education in America.

education the interest of all citizens.

- The changes needed in education require long-term commitment to improvement. There is no quick fix.
- School leaders and policymakers must be committed to the transformation of education or it will not occur.

From the experiences of recent years, it seems clear that the existing educational system in America, as a whole, is perceived as an ailing system that fails to meet the needs of a major portion of the society it serves. Every aspect of the educational process and system must be studied and reconsidered in light of new and different societal expectations. Essential to the success of this endeavor is the development and articulation of the purposes and outcomes of public education at the national, state, and local levels. There must be a shared understanding between educators and their constituents about the goals and outcomes of the educational process. There must be leadership for the significant cultural changes that are needed.

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Leadership Is Needed

Facing this challenge boggles the minds of many educators. After a decade and half of almost unrelenting criticism and pressure, many educators are skeptical, disillusioned, and tired. Some have fallen back on familiar attitudes toward educational change: "this too shall pass" or "my present situation is satisfactory—why do I need to think about all this?" Educators are particularly sensitive to the public's *expertise* on education that is created through the shared experience of being schooled and the lack of confidence in the profession, reflected in statements like "anyone can teach." It is threatening to some educators to suggest that they change the system in which they have been

successful as students and practitioners. Even the task of deciding what and how to change is overwhelming. The number of new ideas and innovations offered for improving education is staggering. Contributing to the confusion and apprehension is the reality that change must occur even as school is in process. Schools, unlike industrial plants, cannot close down in order to retool and retrain. Some have seen this reality of "no time for change" as analogous to leaning out the car window to change a flat tire while driving down the freeway at 55 miles per hour.

Ensuring that changes are made that will enable the educational system to respond to the needs of its constituents, and to society, is the responsibility of educational leaders. Without question, the definition of educational leadership has, and continues to be, broadened to recognize the leadership role of teachers in the schools and the profession. Without question, educators—teachers or administrators—cannot make the needed changes without the support of policymakers and community. However, for at least the immediate future, the need for leadership for change in education requires that the formally designated leaders and managers—school administrators—respond to the challenge.

Without the commitment of leaders and upper management, the restructuring of education is doomed to failure. The mantle of leadership falls on the shoulders of school administrators whether or not they want the responsibility. To paraphrase a top automobile executive, current school administrators should either lead the restructuring movement or get out of the way of those who will. Restructuring is a long-term, on-going process; it is not a quick fix or short-term project. Administrators must provide the leadership to "bell the cat."

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Total Quality Management—Organizational Transformation

> *Transformation is required in government, industry, education. Management is in a stable state. Transformation is required to move out of the present state, metamorphosis, not mere patchwork on the present system of management. We must of course solve problems and stamp out fires as they occur, but these activities do not change the system.*
>
> *The transformation will take us into a new system of reward. We must restore the individual, and do so in the complexities of interaction with the rest of the world. The transformation will release the power of human resource contained in intrinsic motivation. In place of competition for high ratings, high grades, to be No. 1, there will be cooperation on problems of common interest between people, divisions, companies, government, countries. The result will in time be greater innovation, applied science, technology, expansion of market, greater service, greater material reward for everyone. There will be joy in work, joy in learning. Anyone that enjoys his work is a pleasure to work with. Everyone will win; no loser.* (Deming, 1991, p. 25)

The concept of Total Quality Management (TQM) defies reduction to a simple definition. The definition of TQM resides with the user. It is referred to as a philosophy of management, a management approach, a new way of thinking and taking action, a system of continuous improvement, and the process of quality control. Each of these descriptions of TQM attempts to portray in simple familiar terms what is, in fact, an extremely complex, highly proactive process of organizational transformation. As noted

above, Deming believes that the transformed organization must be a changed organization, not just a patched up version of the old organization. Such organizational metamorphosis can only be accomplished when the underlying assumptions and values that guide an organization—its culture—support such change.

Changing the Organizational Culture

The organization implementing TQM is forced to identify and examine its basic assumptions about the role of the organization in the larger environment, the nature of the relationships among people involved with the organization, and the ethical standards of the organization. Is the organization in business to make money or provide a required service, or is it in business to produce products and services that will help people live better lives? How are customers, suppliers, and employees viewed? Are they interchangeable cogs that can be replaced at will, or are they valued experts upon whom the success of the organization depends? Is the organization viewed as a collection of discrete parts or as a system? Is it ethical to create and market products and services that are substandard? Is individualism valued more than teamwork is valued?

The transformed organization must be a changed organization, not just a patched up version of the old organization.

Unfortunately, too many organizations in the United States have operated with assumptions and values that are hostile to the principles of quality improvement. Statements such as "we are smarter than our customers and know what they need;" "our reason for being in business is to make money;" "administrators are paid to do the thinking, teachers are paid to teach;" and "if you make a mistake, it will cost you your job;" illustrate the hostility to quality improvement found in many organizational cultures. An

organization, through implementation of TQM principles, replaces assumptions and values that are hostile to quality improvement with assumptions and values that are friendly to quality improvement. This is not a task for the weak or fainthearted. Transforming the culture of an organization requires long-term commitment, hard work, and strong leadership.

Sashkin and Kiser (1993) offer an explanation of TQM that captures the essence of the transformation concept and suggests key aspects of TQM.

> TQM means that the organization's culture is defined by and supports the constant attainment of customer satisfaction through an integrated system of tools, techniques, and training. This involves the continuous improvement of organizational processes, resulting in high quality products and services. (p. 25)

TQM requires that the focus on customer satisfaction through quality must be built into the management processes of the organization. That is, the very 'fabric' of organizational life, the organization's culture, must define and support TQM.

This explanation reflects the role played by TQM in transforming the culture of an organization. Constancy of purpose is achieved by making long term customer satisfaction the goal of the organization. The customer's satisfaction is to be earned by offering products and services that meet the customer's needs. Innovation and continuous improvement are needed if products and services are to meet the changing needs of the customer. The continuous improvement effort is supported by an integrated system of tools, techniques, and training. All organizational processes are to be continually improved. Saskin and Kiser state that "successful TQM requires that the focus on customer satisfaction through quality must be built into the management processes of the organization. That is, the very 'fabric' of organizational life, the organization's culture, must define and support TQM" (p. 25).

The Concept of Customer

Long-term customer satisfaction is the goal of the organization implementing TQM. Customer satisfaction is earned through the offering of quality products and services that help the customer live a better life. Deming asserts that customer loyalty is even more important than customer satisfaction. Loyalty results from satisfaction over time. As noted in the Introduction, quality is defined by the user and relates to meeting or exceeding the user's expectations. With the primary focus of the organization placed on earning customer satisfaction and loyalty, the organization is said to be customer-focused.

The customer/supplier model depicts all work as part of a process that is always focused on the customer. In this model, suppliers provide inputs which are processed and converted into outputs which are utilized by customers. Work is a value-adding process. Internal customers receive the output of internal suppliers, add value through addition, enhancement or refinement, and then become the suppliers to the internal customers at the next stage in the process. The external customer is the final purchaser or user of the finished product or service. In TQM, being customer-focused means giving attention to the needs of both internal and external customers.

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Constancy of Purpose

Deming (1982, p. 23) states that the first and most important principle for the transformation of Western management is to "create constancy of purpose toward improvements of product and service, with the aim to become competitive and to stay in business and to provide jobs." Creating constancy of purpose is

management's commitment to earning customer satisfaction and loyalty by offering a quality product and service. Satisfied and loyal customers generate a continuing need for the product and service that allows the organization to stay in business and provide jobs for the members of the organization. Constancy of purpose is achieved only when everyone in the organization is focused on the same purpose.

With constancy of purpose, an organization is able to meet both the current and future needs of the customer. The quality of the product or service meeting the current need of the customer must be maintained through continuous improvement and refinement. In order to determine and meet future needs, the organization must invest in employee education, research, maintenance of equipment and facilities, and innovation. Innovations must contribute to the organization's goal of providing a quality product and service to help the customer lead a better life. Innovations should be introduced only after they are carefully researched, the value to the customers is established, the costs are determined, and employees are trained in the use of the innovation. Innovations must contribute to the constancy of purpose.

Continuous improvement requires a commitment to getting better over time. It is a commitment forever.

Continuous Improvement

Continuous improvement requires a commitment to getting better over time. It is a commitment forever. The organization focused on building customer satisfaction and loyalty has an obligation to keep supplying products and services that help the people lead better lives. Improvement cannot be a one-time effort or project. Improvement may mean incremental improvements to a quality product or creating new products. The status quo is not

acceptable. Deming (1982, p. 23) emphasizes the need for continuous improvement in Point Five of his famous Fourteen Points: "Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs." Improvement is not achieved by focusing on results, but by focusing on improving the systems that create the results. Continuous improvement is the work of everyone in the organization, but is the obligation of management.

Tools and Training

Identifying and solving problems are essential parts of the continuous improvement effort. Data gathering and data utilization are important elements in all problem-solving efforts. Without data, judgments are frequently made on the basis of intuition, experience, or assumption. Management-by-fact is a critical aspect of TQM. The development and use of tools for identifying and solving problems in the improvement process are central to the TQM philosophy. The tools most associated with TQM are frequently referred to as the *seven basic tools*: cause and effect diagram, flow chart, Pareto chart, run chart, histogram, scatter diagram, and control chart. The seven basic tools are listed and briefly defined in Appendix A.

Improvement is not achieved by focusing on results, but by focusing on improving the systems that create the results.

In addition to training in the use of the seven basic tools, all members of an organization need extensive training in the concepts and principles of TQM. The members of the organization must be able to speak the same language and work with the same tools. Training in problem-solving processes and group processes complements the training associated with the use of statistical tools.

The Journey of Transformation

Although there are many contributors to TQM, it is W. Edwards Deming who speaks most often about the need to adopt a new philosophy of management. He consistently speaks of the need to have joy in work and learning, of the need for cooperation and teamwork, and of the need to empower individuals. Transformation of the organization, Deming believes, will result in greater innovation, service, and reward for everyone.

Changing the culture of an organization to a TQM culture is likened by Deming to a journey. The origin of the journey is the prevailing management style. The destination is transformation. The journey to transformation requires leaders and a leader's guide. The guide offered by Deming is not a step-by-step process but a set of beliefs—a theory of transformation—which Deming (1992, p. 60) calls a system of profound knowledge. There are four components of Deming's profound knowledge system: 1) psychology; 2) appreciation for a system; 3)theory of knowledge; and 4) knowledge about variation.

Changing the culture of an organization to a TQM culture is likened by Deming to a journey. The origin of the journey is the prevailing management style. The destination is transformation.

Psychology helps to explain human behavior in individual and group settings. Understanding why human beings act as they do helps the leader of an organization identify practices that will intrinsically motivate members to use their abilities to carry out the purpose of the organization. The second area of profound knowledge needed by the leader and members of the organization relates to the concept of systems and systems thinking. The organization is a whole made up of many separate components, all of which need to be focused on achievement of the same goal. The separate parts of the system must feel linked to the other parts of the system and responsible for the ultimate outcome to be achieved. Information

flowing freely between the interrelated and interdependent subsystems is essential to the third area of Deming's profound knowledge—a theory of knowledge. The leader and members of the organization must understand how knowledge related to activities of the organization can be constructed. Knowledge is derived through the experience-based process of obtaining information, formulating theory about how to use the information, making and testing predictions about theory, and revising theory. The learning that results from testing theory becomes knowledge for improving processes and products. All members of the organization need to use this theory of knowledge to enhance their work.

The fourth component in this guiding system for transformation is knowledge about variation. Variation occurs in all systems. For quality improvement purposes, it is important to determine whether the variation in the system is occurring within the accepted limits of variation or outside the accepted limits. Variation occurring outside the acceptable limits is attributed to *special causes*, and variation occurring within the limits is attributed to *common causes*.

Special causes are generally considered to be undesired variations introduced by an employee or by a special event. Special causes can be identified and eliminated. However, finding and eliminating special causes does not improve the system; it only restores the system to operation within the acceptable limits of variation. When all the special causes of variation have been eliminated and the system is operating within the acceptable limits of variation, all variation must be attributed to common causes. Common causes can be eliminated only by altering the system itself.

85 to 95 percent of all quality problems result from common causes. The theory of variation teaches that problems are most often to be blamed on the system and not on the worker.

It is estimated by Deming and others that 85 to 95 percent of all quality problems result from common causes. The theory of variation teaches that problems are most often to be blamed on the system and not on the worker. Management is responsible for changing the system or for empowering workers to act on their own initiative to change the system.

To carry out the work of transformation, Deming (1982, p. 23) offers fourteen principles, the famous *Fourteen Points*, derived from his system of profound knowledge. The principles provide the basis—the bedrock philosophy of management— for transforming organizations in the United States (Walton, 1986, p. 33). From Deming's perspective, only when an organization has adopted and is acting in accord with these principles, is it truly engaging in transformation. The fourteen points address issues related to the purpose of improvement, the philosophy of quality improvement, barriers to improvement, education and training, and leadership. One of the difficulties in using the fourteen points is, as Tveite (1989, p. 1) suggests, that the points are not completely black and white and are open to many different interpretations. As testimony to his own sense of continuous improvement, Deming admits that he is continuously honing these principles and has had other *awakenings* concerning quality management, e.g., the Seven Deadly Diseases and Obstacles. The Fourteen Points, the Seven Deadly Diseases, and the Obstacles are listed in Appendix B.

The TQM Transformation

Organizations implementing TQM are acknowledging the need for change. This change, according to Deming, is needed if the current decline of Western industry, government, and education is to be halted and reversed. The key to reversing this decline

lies in the organization's commitment to continuous quality improvement and management's adoption of a new philosophy of management. The commitment to quality can only be made by people. It must begin with leadership and spread throughout the organization. Deming notes that quality cannot be bought. The only way new technology, machines, or programs will make a quality difference is if the people using them are committed to quality. With a commitment to total quality improvement, the organization is committing to large-scale, long-term changes that will touch every component of an organization—changes in purpose, in strategies, and in relationships with people.

A TQM culture cannot be created without leaders who are visibly, constantly, and sometimes irrationally committed to it.

Leadership for Transformation

The implementation of TQM requires commitment and active leadership. In the business setting, this leadership is expected from the organization's Chief Executive Officer (CEO). In other settings, this leadership may emanate from a team of top level managers or administrators. In any case, TQM is led from the top. The leaders are responsible for guiding the organization through the waters of transformation by creating the vision of the TQM culture. A TQM culture cannot be created without leaders who are visibly, constantly, and sometimes irrationally committed to it. A champion at the top who is working to empower everyone in the organization is crucial to the success of TQM. Only the leader has the ability to bring together the various functions in an organization so that the vital question of how the organization can interact responsibly and intelligently with its members, with its suppliers, with its customers, and with society can be addressed. The leader committed to the principles of TQM knows that this question cannot be left to chance—the future of the organization depends on the answer.

The Basics of TQM in Education—Transformation in Schools

> *The success of quality management in industry has prompted many people to ask "Why not in education?" A few people have begun to answer that challenge and today we have enough experience to say that quality management works well in education. In transferring the methods from industry to academia, however, there are some differences which need to be kept in mind.* (Tribus, 1992, p. 1)

Like their counterparts in business and government, some educators see a need for organizational transformation. In schools and school districts convinced of the need to restructure education, leaders face the challenge of finding the best ways to impact the highly-resistant-to-change culture of education and to bring about needed changes. Spurred on by the reported success of the quality improvement movement in industry, many of these leaders are turning to the principles of Total Quality Management (TQM) and the teachings of W. Edwards Deming to learn how TQM concepts may be applied to education.

To implement TQM in education, educators must rely on the key ideas and principles of quality improvement that have evolved in the industrial setting. As more schools and school districts work through the process of applying TQM, a substantial body of knowledge about how to operationalize this philosophy and process in education will develop; however, that knowledge does not currently exist. For the present, then, educators find that the principles of TQM and Deming's teachings can be applied in education if they are adapted for the educational environment. Educators understand that *customers* are people: students, parents, the future employers of the students, and other educators. They appreciate the need their customers have for a high

Note: This chapter evolved from the collaborative work undertaken by Joan Burnham, Shirley Hord, and Laraine Roberts in preparing for the session, "Total Quality Management: A Fad or A Fit with Other Educational Initiatives?" a presentation before Governor Ann Richards' Invitational Conference on Total Quality Management in Education (November, 1992).

quality education that will help them live as productive citizens in an ever changing world. It is not difficult for educators to accept that people decide what quality is. After all, educators are in the business of making judgments about the quality of the work produced by others. They can conceptualize education as a *system* made up of many interrelated subsystems, all of which need to be focused on a common goal. They can see education as an input/output process that takes what is supplied, adds value to it, and then sends it on to the next process. With a few exceptions, the terms associated with TQM seem to apply to education. The terms *product* and *service* present one of the noted exceptions.

It is not difficult for educators to accept that people decide what quality is. After all, educators are in the business of making judgments about the quality of the work produced by others.

The terms *product* and *service* as used in the for-profit industrial setting do not always seem applicable in the nonprofit, public environment of education. In the private sector, the term *product* generally defines the "something" physical that is produced, e.g., an automobile. The term *service* in this environment appears associated with the attitudes shown while delivering the product, such as those of helpful sales clerks. The quality of the product often appears to carry more weight than the quality of the service; for example, a customer would probably buy a good product even if the service were not outstanding. The product is tangible; service is intangible. Educators do not think of product and service in this way.

Educators work in a service culture. In this environment, the work done or the duty performed is for the benefit of another or others, which is a definition of the term *service*. The product that is produced is a change in human behavior, e.g., when a person learns simple addition facts, the person no longer has to physically count every item to determine a sum. The product—the change in behavior—generally cannot be attributed to a single event or factor. The learning experiences (the instructional activities)—the service—are more easily documented. In

education, the service appears to be more tangible than the product. Educators question how to determine quality in this setting. Is quality determined by the product—the changes in behavior—and, if so, which ones? Or is quality to be determined by judging the learning opportunities—the service—and, if so, which ones? Deciding what to judge or what is most important—product or service—is not clear.

Albrecht (1992) clarifies the situation by proposing that the industrial distinction between product and service makes no sense in contemporary organizations. According to Albrecht, all work is service. Viewing all work as service is the key to understanding that everyone in an organization serves customers. Not everyone in an organization deals with the external customer, but everyone in an organization serves customers, e.g., the person who receives the work of the internal supplier. Equally important is Albrecht's conclusion that quality is determined by the customer's perception of value received.

Viewing all work as service is the key to understanding that everyone in an organization serves customers.

> The customer's entire experience determines his (or her) perception of quality. That perception is affected by the organization's 'product,' processes, and practices as they compare to the customer's expectations. Quality is the measure of the customer's satisfaction with the entire experience. (p. 14)

In Albrecht's opinion, quality in education will be determined by the customer's perception of the value of the total experience, e.g., how the individual was treated and what was learned. With this understanding of the product/service issue and the other quality terms, the application of TQM in education seems feasible.

Educators considering the implementation of TQM quickly learn, however, that principles and theories from the industrial setting do not provide a step-by-step process for implementing the quality improvement concept in education. To implement TQM, an organization

must develop its own vision and strategy for change guided by a set of quality values and beliefs. Deming's philosophy of management, as explained through his system of profound knowledge and fourteen principles of transformation, provides a basis for developing the guiding values and beliefs needed to guide an organization through the transformation process. The leader of the organization does not have to have complete and total understanding of the system of profound knowledge or the fourteen principles to use them, but must have an absolute, unshakeable commitment to the concept of quality improvement.

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Profound Knowledge

As discussed in the earlier section on organizational transformation, Deming likens the changing of an organization's culture to a journey where a leader and guide are needed to reach the final destination. The leader's guide developed by Deming is a set of beliefs he calls a system of profound knowledge: appreciation for a system, psychology, theory of knowledge, and knowledge about variation. Although the components of profound knowledge may be discussed separately, Deming points out that the power of the system is derived from the interaction of the four parts as a whole. The four components re-stated in more familiar educational terms are: (1) knowledge and understanding of systems *(appreciation for a system)*; (2) knowledge and understanding of psychology *(psychology)*; (3) knowledge and understanding of how learning occurs *(theory of knowledge)*; and (4) knowledge and understanding of how to use data to solve problems and make decisions *(knowledge about variation)*.

Knowledge and Understanding of Systems. A school as an organization is composed of multiple interacting systems that interrelate and interact with each other to produce the product—a high quality education.

Examples of systems in a school's structure include: the curriculum and instruction system, the accountability and assessment system, the professional development system, the organizational culture, the student grouping system, the resource allocation system, the governance and leadership system, and the parental/community involvement system. A decision to make a change in any one system has an impact on every other system to some degree. For example, a decision to make a change in the way student learning is measured, such as using performance based assessments, will have an effect on the curriculum and instruction system. It will also have an effect on professional development, allocation of resources, and parental involvement. And, to some degree, it will effect all other systems.

It is not possible to tamper with one part of the system without affecting other related elements.

Appreciation of "systems thinking" means looking for, and capitalizing on the complex, multiple relationships that exist among the organizational systems. It means looking at the total organization for interrelations that may not be obvious and that may in fact appear counter intuitive. Furthermore, it means that it is not possible to tamper with one part of the system without affecting other related elements.

Systems thinking helps uncover the most important and effective levers for change. For example, with the goal of changing the nature of teacher-student interactions, it might seem that the most direct approach would be to redesign curriculum and instruction. Research suggests, however, that changing the assessment process will produce a more dramatic and immediate change in student-teacher interactions, as well as changes in curriculum and instruction. Thus, the accountability and assessment system provides the most effective lever for stimulating change in both student-teacher interactions and curriculum and instruction.

Knowledge and Understanding of Psychology. For a school to improve, individuals within the school's organization need to be healthy, working and living without fear, loving their work, and learning how to improve their work. Human beings have a need for relationships and a natural inclination for learning. People need to be recognized and acknowledged for their personal development. They also need encouragement to collaborate with each other to achieve common goals. Some actions that reflect understanding of human psychology are

- Acknowledging individual achievement and revealing it to the school community;
- Using cooperative learning practices for both students and teachers;
- Instituting peer-tutoring for students, and peer-advising and coaching for teachers; and
- Providing mentoring for both students and teachers.

For a school to improve, individuals within the school's organization need to be healthy, working and living without fear, loving their work, and learning how to improve their work.

Knowledge and Understanding of How Learning Occurs. Learning occurs as individuals construct meaning from direct experiences with cause and effect relationships over time. This means experiencing a new situation or coming into contact with a new idea or new information and developing a theory, then finding ways to test that theory. An individual's theory may be modified or discarded for a new one as a result of observing new evidence and discerning new understandings. Learning occurs through a continuing process of experience, reflection, and inquiry. The examples below illustrate this component of the systems of beliefs, which Deming defines as profound knowledge.

- Students have direct experiences with source materials to construct personal meaning (theory) and knowledge. An example of this is a group of sixth graders interviewing

their parents and grandparents to develop theoretical explanations for immigration patterns to the United States.

- Students construct their own knowledge by developing hypotheses about their respective experiences, testing their assumptions, and then developing their own conclusions. An example of this approach is a science unit that involves students in creating basic circuits with batteries and bulbs and then in developing theories about how circuits work.

Knowledge and Understanding of How to Use Data. Teachers and administrators, working collaboratively with parents and community members, use statistical methodology and tools to solve problems and make informed decisions related to student achievement, demographic data, dropout statistics, and both student and teacher attendance patterns. Additionally, students learn similar techniques that can be used both in solving problems identified within the classroom and in situations outside of school. The examples below exemplify this belief statement.

- A curriculum design team uses the Ishikawa (fishbone or cause and effect chart) diagram to identify significant curricular problems. The team collects and organizes information about the curriculum in order to make informed action plans.
- A school leadership team uses a Forced-Field Analysis to determine the benefits and limitations of instituting a new student scheduling pattern.
- A planning group composed of parents and teachers uses a Pareto Chart to analyze parent volunteer patterns and to develop a plan for stimulating more parent volunteers to work in classrooms or on school projects.

The Fourteen Points

Deming (1992, p. 61) states that the fourteen points for management follow naturally as the application of the system of profound knowledge necessary for transforming traditional organizations into quality organizations. These principles of transformation address issues related to the organization's purpose, the need for training and leadership, and the improvement of processes. As noted in the earlier section on organizational transformation, the points are open to interpretation and have been refined and enlarged over time by Deming. Walton (1986, p. 34) notes that the principles provide a broad prescription for organizational reform, and each organization must adapt them to its own culture and environment. The points are paraphrased here to highlight their application to the educational setting.

The purpose of the educational process is to assist students in their development of the joy and tools for learning which will permit them to live productive lives in their world.

1. *Create constancy of purpose for improvement.* Schools must support the continuous improvement of teachers' and students' work together. The actual progress each student makes in learning is more important than the improvement of test scores. The purpose of the educational process is to assist students in their development of the joy and tools for learning which will permit them to live productive lives in their world. The product should be useful to them in life.

2. *Adopt a new philosophy of quality.* School leaders must internalize and model the new philosophy of continuous improvement. Leading the way, both symbolically and practically, they must empower teams of teachers and students to cooperatively pursue quality in their work and to refuse to accept underachievement from anyone.

3. *Cease dependence on mass inspection of final products.* School leaders must engage in consistent and continuous monitoring of all processes that contribute to students' progress rather than examining end-of-the-year scores. They must seek varied forms of data that contribute to the ongoing improvement of student performance and program effectiveness.

4. *End the practice of doing business on price tag alone.* School leaders must consistently seek long term benefits over short term savings by investing in quality materials and services that maximize the potential productivity of students, staff, and the community. A critical aspect of these behaviors is the focus on building relationships of trust and collaboration within the school and between the school and community, focusing upon long term benefits and recognition of the importance of everyone's role in the process of school improvement.

School leaders must constantly and continuously look beyond symptoms to the root causes of problems.

5. *Improve constantly and continuously the system of production and service.* School leaders must constantly and continuously look beyond symptoms to the root causes of problems. Rather than focusing on end results, they must focus on the causal system which produces those results with a view toward improving the work of students and teachers in the future.

6. *Institute programs of training to help employees to do their jobs well.* School leaders must provide and implement

on-the-job training that enables workers to set goals, work effectively, and assess the quality of their work. Adults should model for students, through attitude and action, how to be effective learners.

7. *Institute leadership focused on helping people improve what they do.* School leaders must create a learning environment in which everyone is continuously encouraged and supported to grow.

8. *Drive out fear of questioning and failure.* School leaders must create an atmosphere conducive to risk taking and experimentation without fear of failure. School changes must reflect shared power, responsibilities, and rewards.

School leaders must create an atmosphere conducive to risk taking and experimentation without fear of failure.

9. *Break down barriers among workers.* School leaders must establish teams that break down role and status barriers to progress. They must encourage collaborative action and inclusion rather than isolation and exclusion.

10. *Eliminate workforce slogans, exhortations, and targets.* School leaders should not exhort workers to meet leader-defined goals. Rather, they must enable workers to define their own processes for pursuing quality and to determine the effectiveness of their work.

11. *Eliminate numerical quotas.* School leaders must focus on improving the processes which yield results rather than attempting to determine results by judging

numerical or letter symbols not reflective of the quality of performance. This requires a shift away from primary emphasis on standardized testing and numerical improvement quotas that fail to comprehensively address methods for achieving those goals to broader, multi-dimensional student assessment systems through which student learning can be more adequately demonstrated.

12. *Remove barriers to pride of workmanship.* School leaders must acknowledge that workers want to do good work and take pride in their accomplishments. They must eliminate the practices and processes that stand in the way of workers' effectiveness.

13. *Institute a vigorous program of education and retraining.* School leaders must encourage and support internalized needs for continuous learning and expect workers to continuously pursue quality in their work.

14. *Take action to accomplish the transformation.* School leaders must dedicate themselves to transforming schools by fully integrating total quality processes into their school structures and cultures. To accomplish the transformation and make it stick, they must gain the support and involvement of the entire school community.

Constancy of Purpose

As noted in the discussion of TQM in an earlier section, Point One of Deming's fourteen principles for transformation of Western management is considered by Deming to be the first and most important principle. Without constancy of purpose—and commitment by everyone in the organization to that purpose—the organization in effect has no purpose. It is the constancy of purpose which gives the organization its aim. The application of the principle of constancy of purpose is a critical factor in the transformation of education.

As noted by Deming, constancy of purpose allows the organization to stay in business and provide jobs for members of the organization by continuously improving the product/service. For a variety of reasons, education as an organization seems to have operated with a "we are in business forever" premise. Only in the very most recent of times have a few educators and others thought about the possibility of public education being forced out of business because the customers believe they can get a better product/service somewhere else. Even if the custodial responsibilities of public education would keep the institution operating, those who are concerned can foresee the possibility that customers who remain would be those with no other choice. Without constancy of purpose, education seems to be engaging in folly.

For a variety of reasons, education as an organization seems to have operated with a "we are in business forever" premise.

Tuchman (1984) notes that there are three outstanding attitudes that are persistent aspects of folly: 1) obliviousness to the growing disaffection of constituents; 2) primacy of self-aggrandizement; and 3) the illusion of invulnerable status. Education seems to have fallen victim to all of these attitudes. If public education is to survive and remain a contributing viable institution in the society, constancy of purpose must be established. The needs of the customer must guide the development and improvement of the products/services offered.

Educators must invite and welcome the help of other interested parties. Schools and school districts, if they want to stay in business and provide jobs, must come to understand that their position is not secured forever.

In education, the organization's official purpose is generally communicated by means of a vision or mission statement. These statements, in varying and often unique ways, address the preparation of students for a productive life in the society in which they will live and work. To do less would violate the institution's responsibility to the society it serves. Unfortunately, these statements often fail to create constancy of purpose because they are only words on a paper or chart devoid of commitment. A purpose without commitment is the equivalent of no purpose.

Mission statements often fail to create constancy of purpose because they are only words on a paper or chart devoid of commitment. A purpose without commitment is the equivalent of no purpose.

Constancy of purpose in any organization—whether in industry, government, education, or other endeavors—begins with the vision and commitment of the leader(s). Without the commitment of the top leadership, continuous quality improvement cannot become a reality in any organization. The commitment must then become part of the fiber of the organization. Everyone must be committed to the same purpose and aim. In education, this suggests that the vision of the superintendent must be shared by the board members, the administrators, the faculty members, and all employees. As the chief executive officer of the district (CEO), the superintendent must know what the purpose of the organization is and continually commit every available resource to the accomplishment of that purpose. The CEO of the school—the principal—must understand the district vision, commit to that vision, and then articulate a vision of how the school contributes to the overall accomplishment of the district vision. The CEO of the classroom—the teacher—must understand the district vision, commit to that vision,

understand how the school contributes to that vision, and then construct a vision of how the classroom contributes to the overall accomplishment of the larger vision articulated at both the district and school levels. Everyone in the organization must know what the purpose of the organization is and then support the accomplishment of that purpose.

Innovations

In discussing constancy of purpose, Deming differentiates between the actions that an organization takes to meet the immediate needs of the customer and the actions taken to plan for customers' future needs. It is in this discussion that Deming speaks to the role of innovations. Innovations are actions undertaken only after researching the concepts or ideas, determining the costs, determining the value to the customer, and training employees in the the use of the innovation. The innovation then becomes a permanent part of the continuous quality improvement effort.

Educational innovation in the United States is noted for its cycle of early enthusiasm, widespread dissemination, subsequent disappointment, and eventual decline.

Innovation in this context is radically different from the educational faddism associated with American education. Educational innovation in the United States is noted for its cycle of early enthusiasm, widespread dissemination, subsequent disappointment, and eventual decline. This innovation cycle is often referred to as the classic swing of the pendulum (Slavin, 1989, p. 752). This approach to innovation is diametrically opposed to the concept of innovation that is discussed by Deming and that is applied in TQM. Under the principles of TQM, innovations are introduced only for the purpose of improving the quality of what the organization offers to the customer. It is not for the purpose of making the job easier or to attract attention. The current innovation cycle or faddism in education robs the system of resources and rarely contributes to significant increases in student learning. It has

been suggested by many that the way to stop this waste of resources and effort is to engage in better planning and evaluation of changes before they are fully adopted.

Deming proposes the use of a cycle of continual improvement for introducing changes and innovation. This cycle is generally referred to as the Deming-Shewhart Cycle or the Plan-Do-Study-Act (PDSA) Cycle. The cycle has four steps. In the first step, the Plan step, a change is planned for the purpose of improving quality. A comprehensive plan is developed that outlines the resources needed, specifies the data to be collected, and designates responsibility for oversight of the planned change. In the second step, the Do step, the change is carried out on a small scale. The results of the change are observed during the third or Study step. The fourth step, the Act step, is used to study and determine what was learned from the change. The cycle is repeated over and over again. Changes are not made in one cycle and then undone. The change is studied over and over and improvements are made. The cycle is a tool for learning and improvement. Use of the PDSA cycle assists the organization in planning and developing new innovations for the purpose of continuous quality improvement.

A Framework for Analyzing Ideas and Innovations in Education

As the need for restructuring education became increasingly apparent, individuals—educators and laypersons—convinced of the need to improve the system began to research initiatives, innovations, and programs whose proponents reported would enhance the quality of education. In the early 1980s, educators began studying the findings of the research on effective schools and classrooms to determine how to apply these findings to improve student achievement. By the mid-1980s, school officials were investigating the promises of strategic planning as a means of changing and transforming the educational organization. By the end of that decade, educators and interested stakeholders in the educational process were engaged in examination of governance initiatives such as school/site-based management and instruction-related innovations like outcome-based education. Other innovations and initiatives such as accelerated education, educational vouchers, essential schools, year-round schooling, and choice systems were also being studied. Moreover, legislative mandate, not local determination of need, was frequently the driving force for implementation of some of the initiatives, innovations, or programs mentioned during this era.

By the beginning of the 1990s, the philosophy and principles of TQM had been introduced in education. The question of how, or even if, TQM and these earlier educational innovations could be integrated to improve the quality of American education loomed before those studying TQM and educational improvement issues. Were programs and initiatives such as the effective schools model, strategic planning, site/school-based management, and outcome-based education to be replaced or enhanced by TQM? How did TQM fit into the total picture of educational change? Is it possible to integrate TQM and the improvement initiatives already underway?

Moreover, During the decade of the 1980s, legislative mandate, not local determination of need, was frequently the driving force for implementation of some of the initiatives, innovations, or programs mentioned.

Note: This chapter evolved from a research and development initiative jointly undertaken by Joan Burnham and Shirley Hord. Burnham and Hord conceived this framework which builds on previous work by Marshall Sashkin and Kenneth J. Kiser in *Putting Total Quality Management to Work*, (1993). This framework substantially guided the subsequent work of the study group.

To address these questions, members of the National LEADership Network Study Group on Restructuring Schools developed a framework of factors associated with the effective schools model, strategic planning, school/site-based decision making, outcome-based education, and TQM. This framework was used to identify what these innovations and TQM had in common, how they were unique, and what contributions they could make to the educational improvement effort. Through the application of this framework it was possible for these investigators to answer affirmatively the question of whether TQM could be integrated with other initiatives. It was also possible to identify where the different initiatives were addressing the same areas and where gaps existed.

Constancy of purpose creates an environment in which everyone works together to move the organization (school or school district) in a single direction with a long-term focus.

The framework of factors that is discussed in the following sections is presented as an illustration only. It is not *the* framework. It provides an example of the construction and use of a framework for the study of key improvement issues, especially the integration of TQM and improvement initiatives. The key factors used in this framework are *constancy of purpose; customer-driven service; counting for quality; school and district culture; collegial leadership; decentralized decision making; comprehensive perspective; and continuous improvement.* The eight factors used in the framework are defined in the following manner:

> *Constancy of Purpose.* The total organization is committed to remaining in business by meeting or exceeding customer needs time after time. Staying in business requires that everyone in the organization engage in continuous improvement of product and services, research and education, and innovation. Constancy of purpose creates an environment in which everyone works together to move the organization (school or school district) in a single direction with a long-term focus.

Continuous Improvement. The total organization is aware of and committed to the constant improvement and refinement of products, services, and processes as the means of satisfying the customer. The status quo is not good enough. All processes are under study at all times. Improvement occurs through both incremental change and through carefully evaluated innovation.

Comprehensive Perspective. The organization is viewed as a whole system of interconnected components. Constancy of purpose is achieved only when all components of a system are working toward the same aim, which is the optimization of the total system. The responsibility for the final product or service is shared by all.

Customer-Driven Service. Quality improvement involves finding out what the customer wants and satisfying the customer again and again and again. Determining the needs and desires of the customer is an ongoing effort because customer needs and desires change over time. Systems should be designed to deliver what the customer wants without hassles to the customer.

School and District Culture. The shared understandings that people in an organization have about how the organization works and about how to work in the organization are its culture. Culture represents the basic mind-set, attitudes, and values of the organization.

Quality improvement involves finding out what the customer wants and satisfying the customer again and again and again.

Counting for Quality. Statistical process tools and problem-solving processes are used by everyone in the organization to analyze, understand, and solve quality improvement problems. The use of the most important tools—brain power and rational thinking—needs to be encouraged. Decisions are made on the basis of data and not opinions, assumptions, and habits.

Decentralized Decision Making. Within the framework of the total system, decision making for quality improvement purposes is decentralized to empower those closest to the point of improvement. An integral part of decentralization is communication with the total system. Roles, responsibilities, and relationships are affected by decentralization.

Collegial Leadership. Barriers between people and departments are eliminated. Teamwork and cooperation are encouraged so that employees can concentrate on the purpose of quality improvement. Quality improvement is the job of every member of the organization. Knowledge, resources, ideas, and solutions are pooled in order to solve problems.

The Bluebonnet Hill School District Case Study

The Community

Centertown, Texas, is located in the heart of the state 38 miles south of its capital and has a population of 54,300. Unlike many towns its size, Centertown experienced steady growth through the 1970s and 1980s and has maintained its economic vitality. Jobs have remained plentiful, and the population increased by 10 percent in the decade following 1980.

The major industries in Centertown include the following:

- Tire manufacturing plant - 1,050 employees;
- Lawnmower assembly plant - 540 employees; and
- Automobile ignition plant - 420 employees.

Residents of the town are also employed at the local 350-bed hospital, the community college, the school district, the state park, and in the businesses found in the declining downtown area and a small shopping center. A new shopping mall is being built close to the interstate highway. Many residents commute to jobs in neighboring towns or in the capital city of Austin.

Many of the residents of Centertown are college graduates and hold professional or management jobs in the town or in state government. The population of the town is diverse. Official census data profiles the town's population as 63 percent Caucasian, 17 percent African-American, 16 percent Hispanic, 3 percent Asian-American, and 1 percent other. The 10 percent increase in population during the last decade occurred primarily in the African-American and Asian-American ethnic groups. Senior citizens are attracted by the mild climate and the beauty of the Texas hill country.

Note: This case study was initially conceived and written by Joan Burnham and Shirley Hord stemming from their developmental training and technical assistance efforts with school districts in Texas. Writer Betty Jo Monk enhanced the case study by providing more background and demographic information on both the school district and the city, as well as overall content.

The School District

The school district is identified in literature prepared by the district and the local Chamber of Commerce as a major asset to the community. During the 1970s and early 1980s, the district won several awards for the quality of its programs and facilities. In more recent years, the district has actively sought to bring up and maintain test scores and other measures of student success. The school district's student population of 8,705 students attend nine elementary schools (Pre K-5), four middle schools (6-8), and two high schools (9-12). The district operates an alternative school facility. Within the boundaries of the district there are also two K-12 private parochial schools.

The Events

At Bluebonnet Hill School District, Superintendent Johnson and the board have consistently made improved student outcomes one of their priorities. Five years ago Madeline Hunter came and trained districts in Education Service Center Region XIII in effective instructional practices. Trainers who had been prepared by the Texas LEAD Center provided training in leadership skills to all administrators, and the Bluebonnet Hill principals and superintendent had been involved in the Texas School Improvement Initiative (training in planning for and leading a school through the improvement process) presented by the Texas Education Agency and the Southwest Educational Development Laboratory.

As a result, each of the Bluebonnet Hill schools had become involved in the effective schools/school improvement process. Each faculty had assessed needs and designed plans for their school to address reading vocabulary and comprehension and/or writing skills, and mathematics. While scores in these areas improved a bit, the

general attitude of teachers was "Well, we've done our best—after all we don't really have enough control to do the things we really need to do for kids."

Interestingly, at this time, a new policy focusing on shared decision making (SDM) and school-based management (SBM) was formulated by the Texas State Board of Education. Regulations for implementing the policy, referred to as Site-Based Decision Making (SBDM), were developed and shared with all districts in the state.

In accordance with the requirements of the state policy, Bluebonnet Hill School District developed plans, arranged a program of training, and set about introducing this new decentralized collaborative process into the schools.

"School improvement is not another thing we do—it is THE thing we do—all of us together all the time!"

The schools began giving attention and energy to the implementation of SBDM. In fact, so much attention was going to the mechanics of SBDM that the schools' staffs seemed initially to have lost their focus on instruction and student outcomes.

The board and Superintendent Johnson were interested in developing and maintaining an improvement orientation among the community and staff and were particularly intrigued by the slogan—"School improvement is not another thing we do—it is THE thing we do—all of us together all the time!" Johnson and Board President Smith had seen this quotation in *The American School Board Journal* and discussed it one morning over coffee. "How do you think we could stimulate this kind of feeling here at Bluebonnet Hill?" they wondered aloud.

Ronald Garza, manager of the town's largest local industry, joined them for coffee. He was quite elated with the company's recent report of the last quarter. "TQM is really working," he said. "Our teams are functioning well, and the way they have instilled a continuous improvement attitude has not only improved the quality of our

tires, but it has improved all the operations of the company. We may all get a bonus or at least a big company picnic to celebrate our accomplishments together."

"Ron, what was that you said about continuous improvement at your tire plant?" President Smith asked. Ron shared information about the Total Quality Management (TQM) training the company had begun three years ago, the problem solving teams they created across departments, and the continuous monitoring they did of each part or system of the company so that they were fine tuning all the time. Superintendent Johnson recalled reading about TQM in the Texas Association of School Administrators magazine, *Insights*, and an idea was born—let's learn more about this and its applicability to our school district.

President Smith said he would make inquiries at the Chamber of Commerce and asked Superintendent Johnson to see what could be learned from the the Texas Association of School Administrators, the Texas LEAD Center, and the Southwest Educational Development Laboratory (SEDL). Garza promised to find several staff members who could share their experiences in installing the ideas of TQM in the tire company.

They agreed to meet in a week to share. Johnson said she would like to bring the high school and elementary principals and two teachers from each of the four middle schools in the district to serve as a multi-constituent team for the district. Smith thought it would be useful to include several PTA people on the team, along with representatives from the business and social service communities.

A week later the superintendent, school board president, principals, teachers, parents, and community members met with a group of staff members from all departments of the tire plant. Trainers from the Texas LEAD Center and SEDL staff who had been attending TQM

awareness seminars and doing in-depth reading about TQM concepts were also invited to the meeting. It was hoped that the Texas LEAD Center and SEDL could, with the assistance of the Human Resource Department of the tire company and other private sector resources identified by the Chamber of Commerce as having success in implementing TQM, initiate development of TQM training materials for school districts. These materials would introduce the basic philosophy, concepts, and tools of TQM so that school districts could begin to learn about how to implement a system of continuous improvement.

The meeting proved to be fruitful for all concerned. The multi-constituent team left the meeting with specific ideas about what TQM meant and the benefits of implementing a continuous improvement process in the district. The trainers from LEAD and SEDL departed with a sense of the TQM training needs of school districts. The superintendent and board president left with the feeling that the school district was moving a little closer to the spirit embodied in the school improvement slogan they had admired.

With the discovery and commitment to learn about TQM, the participants in the situation had taken an initial step in the quality improvement process.

Analyzing the Bluebonnet Hill School District Case

In this case, the district's previous efforts to improve education through the application of effective schools research and training did not appear to be generating the desired results. Furthermore, the implementation of school-based management and shared decision making as state-mandated initiatives for improvement seemed inadvertently to have served as a distraction and not necessarily as the enhancement to the concept of continuous quality improvement that all had hoped it would be. The leadership of the district was struggling to find a way to focus the organization on its purpose of providing a quality education. With the discovery and commitment to learn about

TQM, the participants had taken an initial step in the quality improvement process. Using the framework of TQM and innovation factors, the Bluebonnet Hill case can be examined to determine what the participants learned about the principles of TQM and how they needed to proceed in the future as new initiatives or innovations were considered.

Constancy of Purpose

The importance of articulating a written statement of purpose for any organization was emphasized in the meeting. While there had been a district mission statement on paper for many years in the Bluebonnet Hill school district, only a few administrators, teachers, and support personnel were familiar with it. Moreover, there was no real demonstrated commitment to the written statement. Bluebonnet staff members who attended the October meeting left with an understanding that this statement of purpose must include not only the mission of the district, but reflect its shared beliefs and values. It should also provide the basis for communicating a vision of how the system would be structured or behave in the future to accomplish the mission. They learned also that unless everyone in the school community continually articulates the purpose of the district and demonstrates commitment to the statement by his or her behaviors, it would have little value.

Continuous Improvement

While the Bluebonnet Hill school community had recognized for some time that it was imperative to continuously improve the system for its students, they heard at the October meeting that a philosophy of continuous improvement throughout the entire district was critical to the success of an organization in its quest to become a quality institution. Creating this philosophy throughout the entire system

would begin with an idea as simple as regularly asking the question, "How might we improve upon our current situation?"

The focus would be upon improving the processes that are being used, understanding that most obstacles to continuous improvement cannot be attributed to failures on the part of individuals but rather to processes of the system that are inadequate or limited as to their real effectiveness. They also learned that a system of improvement in the district must include methods, strategies, and plans for improvement. Without a focus on the system, a philosophy of continuous improvement could prove to be another empty slogan.

Customer-Driven Service

The staff members of Bluebonnet Hill were unaccustomed to thinking of their students and their families as customers. However, they soon began to see that focus on continuously improving the quality of education for the primary customer would mean focusing on the student and his/her family. Everyone was able to understand that service to the customer, based on the customer's needs, placed a greater emphasis on continuously improving the quality of the education program for all students. Thus, the concept concerning customer focus and the ideas of continuously improved service to the customer provided a view with which the Bluebonnet Hill school community could agree and identify. The staff members also learned that they were both customers and suppliers in their relationships with other district staff members. Others depended upon the quality of their work. The overall quality of each student's education would only be as good as the quality at each step in the process.

Comprehensive Perspective

The president of the Bluebonnet Hill school board, the staff members, and the parents learned at the October meeting that the district ideally should be viewed as an entire system. They agreed that making changes in parts of the system was not likely to be fruitful unless the effects of the changes on the whole system were understood. Thus, specific actions taken to improve the transportation subsystem, the student assessment subsystem, or the textbook adoption process all have effects on the entire system. The fifth grade teacher has to understand the purpose of the total public education process; the teacher has to think in terms of the graduate and not just in terms of fifth graders. When the fifth grade teacher introduces a change, the teacher must think of the effect this change will have on the next step in the educational process and in the quality of the graduate's education. From this comprehensive viewpoint, the organization is seen as a system focused on the aim of optimizing the whole and not individual parts.

The fifth grade teacher has to understand the purpose of the total public education process; the teacher has to think in terms of the graduate and not just in terms of fifth graders.

School and District Culture

While for some time the Bluebonnet Hill staff had been discussing the importance of a positive climate in the schools, they did not fully understand the critical role that both culture and climate played within an organization. Thus, it was clear to those in attendance at the October meeting that it would be important to examine the organizational culture that existed within the district—the values and beliefs reflected in the norms—before making any significant changes in their system. For the first time, the district began reflecting on its core values and beliefs and examining its current practices (e.g., grading, student assessment, grouping patterns, level of staff involvement in decision making) to see if they were aligned with their beliefs. The staff also

learned that this would be a slow process of change that required commitment and hard work.

As one teacher at the October meeting stated, "We will not be successful in implementing TQM or anything else at our campus if we do not understand the culture in place at both the district and campus levels. For instance, is the culture one that emphasizes rewarding collaboratively working teams for student performance in the math or language arts program? Or does it pit teachers against one another by comparing the performance of their respective classroom student populations and rewarding individual teachers only on this basis?" One of the administrators at the meeting also commented, "We have not really viewed parents as real partners in their children's education, although we give lip service to valuing their role in this capacity."

Counting for Quality

While Bluebonnet Hill teachers and administrators had been concerned with using student data in instructional decision making, they found that TQM employed statistical tools and techniques more extensively for analyzing, understanding, and solving quality problems. They also discovered from the employees at the tire company and the other private sector representatives at the meeting that when TQM works, it works (1) because of the organization's supportive culture; (2) through the organization's structure and management; and (3) by means of various tools and techniques that employees within an organization can use. One of the things that was clear to the Bluebonnet Hill team, however, was that while tools are most often the most visible aspect of TQM, tools alone cannot lead to quality or TQM. Both Deming and Juran, two of the TQM prophets that industry has looked to for leadership in this area, stress that the most important tools are

brain-power and rational thinking. To illustrate this point to the school community, Ron Garza had used the example at the meeting of the Plan-Do-Study-Act (PDSA) cycle as a problem solving process. The Bluebonnet Hill staff members learned that any quality improvement effort emphasizes making decisions on the basis of fact and interpreted data, not on intuition, assumption, or opinion.

Collegial Leadership

The school staff members and parents at the October meeting had been talking about the value of team work and fostering cooperation by organizing people to work together in groups. Teachers had been involved in cooperative learning strategies for some time within their classrooms. They now were beginning to see the similarities of students working collaboratively as problem solvers within the classroom to that of the school council (also referred to as the leadership team, improvement team, or school committee) working together for agreed-upon goals. Cooperation among adults within the system, such as the use of a team of teachers to assume responsibility for an intact group of students over multiple years, was cited as an example of collegial leadership. (The collaborative work of the SBM council, or committee, as well as other committees working to improve the quality of the overall program, was also discussed as examples of this type of leadership.)

Decentralized Decision Making

The importance of bringing decision making down to the level where the work is being done was clearly an important aspect of TQM and school-based management. However, to the Bluebonnet Hill staff it seemed that principles of TQM emphasized the need for leadership's

commitment to decentralized decision making. The staff expressed the belief that without the commitment and support of the central office leadership and the school board, campus-based employees would remain reluctant to take risks. School staff members needed to be empowered by leadership to make decisions that would continuously improve quality.

Factors To Consider in Implementing TQM in Education

As the Bluebonnet Hill example illustrates, implementing TQM in education raises a number of significant issues. The failure to address and resolve these issues will render TQM as ineffective as all the other improvement efforts that have been previously undertaken. The magnitude of the change in both the structure and culture of education that is required to implement TQM is mind boggling. As noted in an earlier section, this is not a task for the timid or weak. The success of those brave and strong souls in the industrial setting who are currently transforming their organizations suggests that the effort is worth the price. Those considering implementation of TQM should be well advised about the time, effort, and commitment needed to make such a change. The commitment to TQM is a commitment forever. The following points summarize the major factors that need to be considered when the transformation to TQM is considered:

The magnitude of the change in both the structure and culture of education that is required to implement TQM is mind boggling. . . .this is not a task for the timid or weak.

Need for Courage. Those seeking to implement TQM are generally driven to do so because of dissatisfaction with the current system. To change requires courage. Change is not an easy process and progress almost always involves some pain. This is not a painless process. Be forewarned.

Pre-eminence of Quality. Quality cannot be only the concern of administration. Administration must make the commitment to quality and support it in an unwavering manner, but quality is the work of everyone in the organization. Quality improvement cannot be just one of the programs or goals; it must be *the* program and overall goal.

Quality improvement cannot be just one of the programs or goals; it must be *the* program and overall goal.

Comprehensiveness of Quality Improvement. Quality improvement is not achieved by learning to use some statistical tools or by boldly displaying quality slogans. The quality improvement effort must impact every aspect of the organization. The human side of the organization must receive as much attention as the technical side. The training commitment must include development of skills in human relations, team building, and communication.

Culture Change. The implementation of TQM is a culture change for most Western organizations. The core beliefs and values of the organization must be examined and changed if they conflict with the principles of continuous quality improvement. Organizations, especially educational organizations, are highly resistant to change. Cultural change is a long-term process, not a quick fix.

Importance of Learning. The implementation of TQM forces an organization into a learning mode. The

organization must learn about its purpose and customers. The commitment to continuous quality improvement means that the organization must be constantly engaged in data gathering and study in order to deliver value to the customer at the present time and in the future. The development of knowledge is viewed as the repeated process of taking information, creating a theory about its use, predicting and testing the theory, and refining the theory. A theory that does not work out as predicted is not considered a failure or mistake but rather an opportunity to both refine and learn from it. The organization and individuals within the organization must have the capacity to make decisions as they are needed.

A theory that does not work out as predicted is not considered a failure or mistake but rather an opportunity to both refine and learn from it.

Role of Leadership. Lasting change cannot be made without the commitment and support of leadership. It is the leader who provides the vision and sense of direction. Deming describes the leader as a person who has the vision, the theory, the sense of obligation, and the plan for leading the organization through transformation. The leader understands people and is able to convince them of the need to share the vision and follow the plan for change.

As noted in the introductory quote from Tribus, TQM and the principles of quality improvement can work well in education with adjustment for the unique features of the educational environment. The transformation of education cannot occur without courageous

leadership and hard work on the part of all members of the educational community. Education cannot just copy what has been done in the industrial setting. Rather, it must create it own learnings about TQM and how to apply this philosophy and its principles to education.

Integrating TQM and Other Educational Innovations

> *So far we have been talking as if schools adopted one innovation at a time. This single innovation perspective largely reflects the lessons learned from the 1970s and early 1980s, and can be very useful for examining individual innovations. The broader reality, of course, is that schools are in the business of contending simultaneously with multiple innovations. . .* (Fullan, 1991, p. 49)

One of the purposes for creating this publication was to provide a means for examining current innovations or initiatives in education in tandem with Total Quality Management (TQM). In the preceding section on TQM in education, a framework of factors derived from the analysis of four educational innovations and TQM was used to examine what the staff members of Bluebonnet Hill learned about quality improvement. The framework gave this school district's personnel a method for examining the purpose, focus, structure, and environment of their organization. The factors included in the framework were: (1) constancy of purpose; (2) customer driven; (3) counting; (4) culture; (5) collegial leadership; (6) de-centralized; (7) comprehensive; and (8) continuous improvement.

The framework created for this case study was not presented as *"the"* framework for studying TQM and other innovations, but as an example of how such an analysis could be carried out. Such analysis would appear, however, to be consistent with the philosophy of TQM. Within the overall TQM context, new methods and

Note: This chapter emerged from the initial investigations for the design team members on educational initiatives that contributed to a systems approach to restructuring. The research and development of Joan Burnham and Shirley Hord provided the matrix framework for analyzing the contributions of these educational initiatives.

strategies are constantly studied, experimented with, and integrated in existing processes as part of the continuous improvement effort. Continuous improvement means focusing on the impact innovations have on the total system and on the final product.

With the growing public demand for restructuring or transforming education, educators' interest in finding innovations and initiatives for improving education has increased significantly. Where innovations have been put in place, educators are interested in learning how these innovations fit with the philosophy of TQM. Studying existing or new innovations for their potential contributions to the improvement of the educational system and its processes is arduous work. The use of the framework created in this publication offers evidence of the benefit that may be derived from the investment of effort.

Continuous improvement means focusing on the impact innovations have on the total system and on the final product.

A listing of innovations and initiatives that have attracted the attention of educators in recent years would be lengthy. Some of the most popular concepts and programs are outcome-based education, strategic planning, school/site-based management, shared decision making, effective schools, effective teaching strategies, adopt-a-school partnerships, mastery learning, critical thinking, accelerated learning, essential schools, learning styles, and school-business coalitions.

To illustrate the use of a framework of quality improvement factors in analyzing the contributions of a particular innovation or initiative, four current innovations are briefly examined by comparing generally acknowledged characteristics or concepts associated with those innovations to the eight factors previously described. The innovations reviewed are school/site-based decision making,

the effective schools research model, strategic planning, and outcome-based education. The analysis of each innovation is limited by the use of broad, generally acknowledged characteristics or concepts associated with the innovation. It is not intended that the description of any innovation be viewed as a definitive description of that innovation. The descriptions are presented for the purpose of applying the framework.

A note of explanation concerning how the determinations about the fit of each of the four educational innovations with the principles of TQM were made is also needed. Each innovation was initially reviewed by the National LEADership Network Study Group on Restructuring Schools at the Austin meeting to determine the aspects of each that matched or did not match with Deming's Fourteen Points. As noted earlier, it was soon discovered the points did not lend themselves to this type of analysis. Thus, the framework of eight factors was developed to represent core concepts of quality improvement. Individual members of the Study Group then worked with each other and practitioners to further clarify how a particular innovation fit with the concepts of TQM that were outlined in the framework. The framework and the resulting analyses were reviewed with professional colleagues in several different presentations.

The purpose of this discussion of the selected educational innovations and their fit with TQM concepts is to prompt reflection on how any innovation or initiative may be viewed in terms of its *contributions* to the process of quality improvement. It is in this spirit that the following analyses are presented.

Site-Based Decision Making

Site-based decision making is an approach that involves various individuals at the local level in collaboratively making decisions about their organization, its outcomes, and operations vis-a-vis decisions about programs, personnel, and budget. Site-based decision making is classified as a governance initiative because of its primary focus on the decentralization of decision making. When fully implemented this initiative has the potential to effect certain aspects of the political structure and culture of the organization.

Site-based decision making brings together the concepts of *autonomy* identified with school-based management (SBM) and *participation* identified with shared decision making.

Site-based decision making brings together the concepts of *autonomy* identified with school-based management (SBM) and *participation* identified with shared decision making. Without the expectation of shared decision making, school-based management can become a very autocratic system, e.g., only the principal makes the decisions. Without delegation of authority, participatory decision making is often considered to be an exercise in futility, e.g., groups serve only as advisors or endorsers. With both delegation and distribution of appropriate decision-making authority come responsibility for the results of the decision making.

With notable exceptions, site-based decision making was implemented in many districts for the purpose of resolving serious employee-employer relations problems. This approach was viewed as a way to reduce high employee absenteeism, high employee turnover, and adversarial relationships between organized teacher groups and boards of education by including employees in decision making processes. The expected outcome was increased employee motivation that would translate into better educational outcomes for students. With the inclusion of parents and other stakeholder representatives on the decision-making bodies, this approach

becomes more focused on addressing issues related to the overall improvement of education. More recent implementations of site-based decision making have specifically emphasized that enhanced student learning outcomes are the focus of this governance initiative.

The process of site-based decision making is generally carried out by a formally organized group commonly referred to as the school council or school committee. The membership of the group is composed of representatives from the stakeholder groups interested in the quality of education: teachers, administrators, parents, community members, business representatives, students, and support staff. This representative group has authority to act only in areas where authority has been granted by statute or district policy. In most instances, the group is given some discretion to act in matters related to budget, personnel, and curriculum. An important aspect of this approach to decision making is the use of consensus decision making. The school committee is generally trained in and expected to reach decisions using consensus process.

Key points generally associated with the concept of site-based decision making are outlined below.

- The school is the primary unit of improvement.
- Authority, autonomy, and accountability are decentralized.
- Decisions involve a wide array of persons.
- A team or site council is used for representation.
- Decisions focus on programs, personnel, and budgets.

From a general perspective, site-based decision making as a governance initiative contributes to the TQM concepts of culture,

collegial leadership, and de-centralization because of its emphases on involvement of stakeholders in decision making at the local level. Other concepts of TQM may be addressed by site-based decision making in special situations under specific guidelines, but this cannot be generally attributed to this initiative. In the absence of a clearly articulated emphasis on achieving student outcomes, many districts implementing site-based decision making acknowledge that the initiative was introduced more to resolve employee problems than to address serious gaps related to student achievement of all students.

The contributions of site-based decision making to quality improvement by its effect on the factors of culture, collegial leadership, and de-centralization are depicted in the following chart. Total Quality Management is included in this chart—and in all succeeding charts—as contributing to all eight quality improvement factors.

Analysis of Contributions of Selected Educational Innovations/Initiatives and Total Quality Management (TQM) Using Selected Quality Improvement Factors

Factor	Innovation or Initiative				
	Site-Based Decision Making	Effective Schools	Strategic Planning	Outcome-Based Education	Total Quality Management
Constancy of Purpose					•
Customer-Driven Service					•
Counting for Quality					•
School and District Culture	•				•
Collegial Leadership	•				•
Decentralized Decision Making	•				•
Comprehensive Perspective					•
Continuous Improvement					•

Effective Schools

The body of research identifying the characteristics of effective and ineffective schools is the foundation upon which the effective schools movement or model is built. In this approach to school improvement, the school is the unit of change. The following are characteristics or correlates of effective schools:

Strong instructional leadership. The principal acts as the instructional leader who effectively communicates the mission of the school to the staff, parents, community, and students in order to carry out the instructional program of the school.

Strong instructional focus. There is a clearly articulated mission for the school through which the staff shares an understanding of and a commitment to instructional goals, objectives, priorities, assessment procedures, and accountability. There is also a collaborative planning process in place which is designed to improve student performance.

Positive school climate. There is an atmosphere which is orderly without being rigid, quiet without being oppressive, and generally conducive to teaching and learning. The school has a pleasant, clean, and safe environment.

High expectations. The school displays a climate of expectations in which the staff believes and demonstrates that all students can attain mastery of basic skills and that the

staff has the capability to help students achieve such mastery.

System for monitoring and measuring students. Results of feedback on student academic progress are frequently obtained and disaggregated to ascertain if all students are learning appropriately. Multiple assessment methods such as teacher-made tests, informal teacher observation and assessment, mastery skills checklists, criterion-referenced tests, and norm-referenced tests are used. Other sources of data that are not test related such as attendance data and dropout data are also appropriate. The results of testing and other available data are used to improve the instructional program and individual student performance.

Parent and community involvement. The school believes that when parents and community members are involved in education, children go to better schools and do better in school. Parents and community members are invited, recruited, and welcomed as partners in achieving the school's mission.

All of the correlates are considered equally important and need to be addressed for improvement purposes. The research does not claim that this set of correlates causes a school to be effective, but that where the school is effectively teaching all children, these characteristics are generally present.

An effective school is defined as one in which high proportions of students master the basic skills regardless of the group (i.e., race, gender, socioeconomic class) to which they belong.

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The key aspects in the effective schools improvement process generally include:

- Believing that all students can learn;
- Exploring the knowledge base of the research and process;
- Acknowledging the school as the unit of improvement;
- Securing district commitment and resources;
- Forming improvement teams and developing team skills;
- Affirming the mission and belief system;
- Gathering and analyzing data on school characteristics and student outcomes;
- Identifying data-based, mission-oriented improvement objectives;
- Selecting strategies and developing a plan for implementation;
- Implementing plan and monitoring results; and
- Refining and renewing improvement efforts.

The primary measure of student achievement in the effective schools model to date has been performance on standardized tests, particularly in the basic skills areas of reading comprehension and mathematics computation. Standardized tests are used as benchmarks for a school's effectiveness because they are considered to be the most available, accepted, reliable, and valid outcome measures. Advocates of the effective schools research point out that other measures will also be employed as they become available.

The effective schools improvement process contributes to five of the TQM concepts. With its focus on the school as the unit of improvement, this initiative in its early years was not really concerned with the system as a whole (comprehensive) or the need to change the traditional pattern of district organization (de-centralized). With a primary emphasis on mastery of basic skills in the 1970s, the effective schools movement was perceived by some to give temporary attention to various parts of the system deemed to be in need of improvement. However, the principles of continuous improvement and those of systemic restructuring have influenced the leaders of the effective schools movement in their writings and beliefs in the 90s. Evidence of that influence can be found in Larry Lezotte's 1992 book, *Creating the Total Quality Effective School*, and his work throughout the country with school districts that are committed to attaining this goal.

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Decentralized Decision Making	•				•
Comprehensive Perspective					•
Continuous Improvement					•

Strategic Planning

Strategic Planning is a collective statement by organizational members about the future. Since it is future-oriented, it is by definition a proactive planning process that involves identifying the mission of an organization; determining the internal and external forces that impact the organization; analyzing those forces and the effects they have on the organization's ability to accomplish its mission; developing strategies for dealing with them including a framework for improvement and restructuring of programs, management participation, and evaluation; and instituting action plans to carry out those strategies and achieve the organization's mission (Cook, 1988).

Strategic planning is differentiated from traditional long-range planning on the basis of several factors. When considering the future that is being planned for, long-range planning generally assumes that the organization will remain comparatively stable, and that the organization needs to develop internal goals and strategies to deal with external changes. Strategic planning assumes that the organization cannot remain stable. If the needs of the society it serves are changing, the organization must change. Long-term planners might ask how what is currently being done can be improved so that in future years it can be shown that these things are being done better. Strategic planners would probably ask how the organization needs to be redesigned to meet future needs that are anticipated by the examination of data related to current and projected demographic, economic, and social trends.

Strategic planning assumes that the organization cannot remain stable. If the needs of the society it serves are changing, the organization must change.

Another important distinction between long-range planning and strategic planning relates to who is involved in the planning process. Long-range planning is usually carried out by a planning department or by a select group of members of the organization. The strategic planning process is led by a small group with

widespread involvement of stakeholders who have a vested interest in the success of the organization.

The strengths the strategic planning process could contribute to the quality improvement effort relate to *constancy of purpose*, the use of data for decision making *(counting)*, the involvement of stakeholders *(collegial leadership)*, and an emphasis on *continual improvement* through determination of societal needs.

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Collegial Leadership	•	•	•		•
Decentralized Decision Making	•				•
Comprehensive Perspective					•
Continuous Improvement			•		•

Outcome-Based Education

Outcome-based education is an improvement effort designed to focus and organize all of the school's programs and instructional efforts around the clearly defined outcomes that students are to be able to demonstrate when they leave school. Outcome-based education is not a program but a way of designing, developing, delivering, and documenting instruction in terms of its intended goals and outcomes. The goal of outcome-based education is to ensure that all students are equipped with the skills necessary to be productive citizens. William Spady, a leading proponent of outcome-based education, suggests that the current educational system cannot possibly meet the challenge of the technological age because it is a curriculum-based system driven by an agricultural calendar.

Key premises in outcome-based education are: (1) all students can learn and succeed; (2) success breeds success; and (3) schools control the conditions of success.

Key premises in outcome-based education are: (1) all students can learn and succeed; (2) success breeds success; and (3) schools control the conditions of success. The principles of this improvement process promote: clarity of focus (outcomes); expanded opportunity (time and support); high expectations; and designing down from the exit outcomes to the instructional delivery. These principles, referenced by Spady and others, are reflected in the goals of outcome-based education. They are

- Higher outcomes for all students;
- Greater opportunities for all to succeed;
- Better organization and articulation of the curriculum and instructional delivery;
- Better use of available time and instructional resources; and
- An expanded definition of the teacher's role and the range of activities and performances associated with good teaching.

Outcome-based practitioners start by determining the knowledge, competencies, and qualities they want students to be able to demonstrate when they graduate and face the challenges and opportunities of the adult world. Then, with these exit outcomes clearly in mind, they deliberately design curricula and instructional systems with the intent that all students will ultimately be able to demonstrate the outcomes successfully.

Criteria associated with the outcome-based education initiative include:

- A collectively endorsed mission statement;
- Clearly defined, publicly derived exit outcomes;
- A tightly articulated curriculum framework of program, course, and unit outcomes;
- A system of instructional decision making and delivery;
- A criterion-based, consistently applied system of assessments, performance standards, student credentialing, and reporting;
- A system of instructional organization and delivery;
- A system that recognizes the power of organizational culture on student and staff development and establishes a climate that enables all students and staff to perform at high quality levels;
- An ongoing system of program improvement; and
- A data base of course and unit outcomes for all students, as well as other key indicators of school effectiveness, that is used and updated regularly to improve the conditions and practices that affect student and staff success.

Outcome-based education's contributions to the TQM principles of total quality improvement include emphasizing *constancy of purpose*, being *customer driven*, using data for decision making *(counting)*, and an emphasis on *continuous improvement*.

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Decentralized Decision Making	•				•
Comprehensive Perspective					•
Continuous Improvement			•	•	•

As Fullan explains in the introductory quote at the beginning of this section, schools deal simultaneously with multiple innovations. New concepts, ideas, and programs do not present themselves in an orderly sequence, but frequently appear on the scene at the same time. Forced into competing with each other for educators' attention, advocates for each innovation or initiative frequently suggest, sometimes subtly and sometimes openly, that educational innovation is an either/or situation. The notion that this innovation or that innovation must be chosen over other initiatives or innovations has contributed to educational faddism. Historically, the idea of finding the balance and integrating innovations has received limited attention.

The introduction of the philosophy of total quality improvement in education has raised many of the concerns associated with replacing or throwing out one innovation in favor of another innovation. Does TQM replace innovations already under way? Should we throw out school/site-based decision making, effective schools research, strategic planning, and outcome-based education if TQM is adopted? The answer to these questions is a resounding "NO!" The philosophy of TQM stresses the importance of studying and analyzing what is being done and constantly improving processes and products. Innovations are integrated into the philosophy of continuous improvement that guides the organization.

The framework of continuous improvement factors that was used in this section to analyze educational innovations is one approach for examining how different concepts and programs may singly, or in combination, contribute to the ongoing improvement effort. The reward of such an effort is the integration of new ideas and concepts for the enhancement of the products and services offered—the true value of innovation.

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Constructing a New Educational Culture—The Challenge of Leadership

> *When we speak of organizational or cultural change we mean real changes in the behavior of people throughout the organization. In a technical sense we mean people in the organization identifying with new role-model heroes. We mean people telling different stories to one another to explain what is occurring around them. We mean people spending their time differently on a day-to-day basis—calling on different accounts, asking different questions, carrying out different work rituals. And we mean for this behavior to be pervasive—to involve virtually all the people in the organization. This kind of deep-seated cultural change is what we mean when we say that change takes a long time to achieve.* (Deal and Kennedy, 1982, p. 158)

Change in education is expected, even demanded. This expectation, however, is significantly different from the illusion of change which educators have so frequently experienced in the past—decide to adopt a new reading series, plan to implement a new program, or try a new teaching strategy, and then get back to business as usual. Educators are asked to restructure the organization in which they serve by rethinking the rules, roles, and relationships which form the culture of public education. To successfully accomplish this task means dealing with a major paradox—the greatest barrier and support to change in any organization is the culture of the organization. Culture represents the known, and change represents the unknown.

Organizational Culture

In a very common sense way, culture may be defined as the shared understandings people in an organization have about how the organization works and about how they work in the organization. Consciously or unconsciously, as people work in an organization they come to internalize how things are done in the organization. People in an organization learn about the acceptable standards for behavior, how to treat one another, what the organization really values, and what the rules are for getting the job done. These shared understandings hold the organization together and give it a distinctive identity. Perhaps these ideas on the nature of culture in an organization are best summed up by Sashkin and Kiser (1993, p. 86) in their collaborative work with Richard Williams:

> Culture is the cumulative perception of how the organization treats people and how people expect to treat one another. It is based on *consistent and persistent management action*, as seen by employees, vendors, and customers.

Consciously or unconsciously, as people work in an organization they come to internalize how things are done in the organization.

Schein (1985) defines organizational culture as the learned behavior of a stable group of people as they cope with their external environment and internal problems. Culture, according to Schein, exists at three levels—the artifacts level, the values and beliefs level, and the underlying assumptions level—and becomes progressively more ingrained and abstract by level. The *artifacts level* is the most concrete and visible level of culture within an organization. The daily rituals, the ceremonies, and the icons of the organization physically transmit the unwritten and informal expectations (norms) for behavior within the organization. The *values level* defines the basic character of the organization

and gives the organization its sense of identity. Through shared values and beliefs, members of the organization develop a sense of direction that guides their day-to-day behavior. For example, when respect for authority is a value of the organization, people in the organization learn that communicating through the proper channels is appropriate behavior and criticizing your superior in public is unacceptable behavior.

The deepest and most intangible level of organizational culture is the *underlying assumptions level*. Having been formed over time as the organization coped with internal and external problems, the underlying assumptions are so ingrained that they are unconsciously taken to be the non-negotiables of organizational life. Contained within these assumptions are core beliefs about human nature, human relationships, and reality that guide the organization. As the foundation upon which the organization rests, these underlying assumptions are highly resistant to change.

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Schein's three-level model of organizational culture provides insight into the challenges leaders face when they attempt to guide organizations through a large-scale transformation process. In order to bring about large scale change, the underlying assumptions of the organization must be defined and analyzed. This is a difficult and time-consuming task that is complicated by the inherent resistant-to-change characteristic of this level. Determining and analyzing the values and artifacts of the culture are simpler tasks, but changes at these levels do not contribute to profound organizational change. The futility of thinking that simple cosmetic changes in daily routines or in organizational slogans will bring about significant changes is apparent.

In retrospect, many of the attempts to implement significant change in the past may owe their demise to the fact that the proposed changes affected only the artifacts and values levels of the culture. The

importance of organizational culture as the driving force that can neutralize or facilitate change, especially at the level of underlying assumptions, cannot be ignored. The culture of an organization can be changed only if leaders are sensitive to the characteristics of each cultural level and willing to devote the time and effort that such a major undertaking requires. Motivation for such an endeavor is provided by a growing body of evidence linking organizational success and organizational culture.

In searching for America's best-run companies, Peters and Waterman (1982) found that culture was closely tied to the success of excellent companies. They noted that the stronger the culture in these companies and the more the culture was directed toward valuing the customer, the less policy manuals, organization charts, detailed rules, and procedures were needed. With clearly defined guiding values, people throughout the organization knew what they were supposed to do in almost any situation. In these companies there were esteemed heroes/heroines and a strong prevailing mythology. In fact, the culture was so strong in each of these excellent companies that prospective employees consciously made decisions as to whether or not they would explore working for such an enterprise, based upon their understanding of its culture and its congruency with their own values and beliefs.

Organizations with cultures rooted in the past often have unspoken rules like "don't rock the boat;" "refrain from sharing information with others or other groups;" "don't be associated with failures;" "avoid taking risks;" and "be sure not to say anything your supervisor may not want to hear." The culture in organizations identified as striving for excellence and seeking to be customer-based have expected behavior norms like "treat everyone with respect," "encourage people to find new ways of doing things," "be willing to take risks," and "bring issues out in the open."

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The Educational Culture

Although it may be argued that each school and school district has a unique culture or set of subcultures, the remarkable similarities found in schools permit consideration of the culture of public education. The artifacts of school are abundant—report cards, class bells, faculty meetings, pep rallies, lesson plans, the 180-day school year, 13 grade levels, the traditional teacher-students ratio staffing pattern, the layout of the typical school building, the uniform salary schedule, and so on and so on. "Don't criticize the principal;" "take care of your discipline problems;" "supervise your children;" "demand high but not unrealistic performance from students;" "be available to students and parents;" and "be professional at all times" are familiar examples of the values and beliefs that guide how educators behave:

Less obvious are the underlying assumptions of public education. Although certainly subject to considerable debate, some of the common, underlying assumptions in education include the following:

- Relationships are primarily hierarchical.
- Human nature is basically good but requires control.
- Truth and knowledge are determined by outside authorities.
- The role of teacher should be occupied by a person with specialized training in pedagogy.
- All persons at the same level should receive uniform treatment.
- Expectations for public education are frequently paradoxical in nature, e.g., preserve and transmit the past while preparing students for an unknown future.
- The policymakers for the institution should be lay persons.

- The educational process should be carried out as cheaply as possible.
- Only a small percentage of the population needs to be prepared for leadership roles.

These underlying assumptions have created such a strong culture in education that schooling is conducted in an almost universal manner in all 50 states.

Drake and Roe (1986) note the following aspects of organization, structure, teaching procedures, and the learning process that are still applicable to most schools in the United States:

1. Classes are for the most part graded rather than ungraded.
2. Students are taught each subject by a single teacher rather than by a team or series of teachers.
3. Class periods are of a uniform duration, such as 40-60 minutes.
4. The school year consists of approximately 180 days.
5. The formal school is held spring, winter, and fall and closed during the summer months.
6. Academic subjects are given an equal amount of time throughout the school year, no matter what the subject.
7. The academic courses in the school curriculum are essentially the same.
8. The student is expected to complete four years of high school before graduation.
9. All classes begin at the beginning of the semester or school year and end at the end of the semester or school year.

...underlying assumptions have created such a strong culture in education that schooling is conducted in an almost universal manner in all 50 states.

10. The formal school day begins at a certain time for students and ends at a certain time for students.
11. Students generally remain in school for 12 to 13 years.
12. An evaluation system, usually letter grading, is provided for pupils that compares them with the group rather than themselves.
13. Most schools have some semblance of a college preparatory, vocational education, and general education track system for students.
14. The school building and the classroom are where formal education takes place.
15. Schools have a superintendent, a principal, and a teacher hierarchy.
16. All schools have a board of education and are part of a state system, and so on (pp. 176-177).

The uniformity found in the way public education is organized and conducted in 50 separate state school systems speaks to the strength of the culture and the role tradition plays in the organization. . . schools in the 1990s are not significantly different from those of the 1880s with the exception of size and number.

The uniformity found in the way public education is organized and conducted in 50 separate state school systems speaks to the strength of the culture and the role tradition plays in the organization. It is to be noted that schools in the 1990s are not significantly different from those of the 1880s with the exception of size and number.

As an institution, public education is particularly resistant to change. For many, public education represents stability in a chaotic world. With significant changes occurring in world government, in the world market, in religious institutions, and in human relationships (especially in the family), many are reluctant to see education change because it appears to be one of the few anchors in a very stormy sea. Realistically, however, even those with the most romanticized view of the quality of the past education eras know that the system must

change in order to meet the needs of the society. Accepting this need for change intellectually does not mean that change is easily accepted.

Deal (1990) points out that the type of cultural change that is suggested by the use of terms such as restructuring and transformation is somewhat analogous to dealing with a loss through death. People are attached to the culture of education by virtue of their common schooling experiences. Changing the culture of education will cause people—educators and the public—to experience loss. The grief which results from this loss must be acknowledged and accepted. Changing the culture in education is a significant challenge. Deal (p. 132) warns that "schools seem to move as easily as a large oil tanker at dock can be pushed by someone standing on a pier. They change so slowly that it almost requires a Rip Van Winkle figure to witness a complete turn-around. The difficulty and pace are predictable."

Changing the culture of education will cause people—educators and the public—to experience loss. The grief which results from this loss must be acknowledged and accepted.

The school culture is considered by many to be the critical element that either energizes or undermines school improvement efforts. Saphier and King (1989) identify 12 cultural norms that affect school improvement: collegiality; experimentation; high expectations; trust and confidence; tangible support; reaching out to knowledge bases; appreciation and recognition; caring, celebration, and humor; involvement in decision making; protection of what is important; traditions; and honest, open communication. Where these cultural norms prevail they need to be supported and where they do not, they need to be built.

Changing the Culture in Education

Sergiovanni (1991, p. 108) states that shaping and establishing a strong and functional culture aligned with a vision of quality schooling does not happen by accident. Such a culture must be purposely built and nurtured by the leadership and membership of an organization through negotiation of differing perceptions and values. Culture, as noted by Bates (1981, p. 43), is the product of conflict and negotiation over definitions of situations. The negotiation of competing sentiments and definitions does not happen overnight; it involves struggle and requires time. In order to build a collective sense of mission and shared values, members of an organization must have the opportunity to express their own perceptions and values, and to hear the perceptions and values of others. The stakeholders in an organization must be invited to respond with immediate solutions to situations needing improvement and encouraged to responsibly experiment long-term with the enhancement of what is presently working.

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The responsibility of the formally designated leader in this new culture building effort is to ensure that opportunities for communication occur. The commitment of the leader and leadership within the organization to the values associated with total quality must be effectively communicated so that others clearly understand that this is not just another fad, but a commitment forever. This commitment, when communicated to the stakeholders, acknowledges that leadership cares not only about the quality of products and services but about people and relationships. It is not the leader's role to dominate or to dictate, but rather as Selznick (1957, p. 28) suggested, to be "primarily an expert in the promotion and protection of values" associated with continuous improvement. The leader's responsibility is to ensure the accomplishment of the organization's mission and the success of the people in the organization.

Covey (1991, p. 265) notes that the pre-eminent question for the leader dedicated to ensuring success for the organization and its membership is "How do you transform the paradigms of people and organizations from reactive, control-oriented management to proactive, empowerment-oriented leadership?" How can this be done? As has been discussed earlier, Deming's body of theory helps in understanding *what* and *why* such transformation is needed, but only minimally addresses *how* to bring the needed changes.

With only limited experience in the application of the principles of continuous improvement—Total Quality Management—in education, educational leaders are just beginning to learn how to transform their organizations. Researchers and theorists are beginning to address how to develop new cultures in education and examples of the use of TQM in education are emerging. For example, Covey (1991) suggests that his Principle-Centered Leadership provides the principles and application tools for activating the two ingredients essential to quality improvement: leadership and people (p. 263). Ten of the 33 articles in *An Introduction to Total Quality for Schools*, a 1991 publication of the American Association of School Administrators, discussed the implications and applications of TQM in education. Thus, the body of knowledge about TQM and cultural transformation is growing.

In *The Fifth Discipline* (1990), Peter Senge offers an approach called the *learning organization* that complements the philosophy of continuous improvement. Senge advocates that schools, like all organizations, must become learning organizations in order to survive and be successful. Key to the success of the learning organization is its engagement in generative learning (expanding capabilities and creating before problems occur) and not just adaptive learning (responding and coping

Senge advocates that schools, like all organizations, must become learning organizations in order to survive and be successful.

with change). To build the learning organization, Senge offers five disciplines for the members of an organization to use and practice. They are

- *Building Shared Vision*—the practice of unearthing shared "pictures of the future" that foster genuine commitment.
- *Personal Mastery*—the skill of continually clarifying and deepening personal vision.
- *Mental Models*—the ability to articulate and clarify "pictures of the world," scrutinize them, and open them to the influence of others.
- *Team Learning*—the capacity to think together that is gained by mastering the practice of dialogue and discussion.
- *Systems Thinking*— the discipline that integrates the others, fusing them into a coherent body of theory and practices.

The critical roles of leadership—designer, teacher, and steward—take on a new meaning in a learning organization.

According to Senge (1991), the leader's role in helping the institution become a learning organization is critical. Freed from the controlling past, the transformed organization must engage in a continuous process. The critical roles of leadership—*designer, teacher, and steward*—take on new meanings in a learning organization and are paraphrased below.

Leader as designer. Like the designer of a ship, the work of a leader as a designer is not immediately visible. It is the quiet behind the scenes work that is the essential foundation of an organization, which begins with the designing of governing ideas of purpose and enduring core values by which people can live. Of equal importance is the

design of policies, strategies, and structures that translate these goals into decisions. In a learning organization, this design role is shared throughout the organization, and top management has a responsibility for ensuring that processes are designed to carry out well-defined strategies and policies that have broad-based support in the organization.

Leader as teacher. As a teacher, the leader helps everyone in the organization, oneself included, to gain greater insights into current reality and the understandings of the organization as a system of interrelated parts. Serving as a coach, guide, or facilitator, the teacher role in a learning organization is extended by helping others in organizations to surface their mental models (hidden assumptions and pictures about how the world works) on important issues to the organization, particularly when those models are unexpressed and perhaps unrecognized by the very individuals who appear to others, based upon their actions, to hold them sacred.

Leader as steward. In this role, the subtlest of the three, the leader's attitude toward his or her work is the most important aspect. In citing the work of Greenleaf (1977), Senge states that it begins with the desire of wanting to serve and is translated by a conscious decision to aspire to leadership in order to serve others and the organization. This view contrasts greatly to that of an individual whose first need is to be a leader—which often stems from needs related to power, authority, and status—rather than a genuine desire to contribute and make a difference. Stewardship manifests itself on two levels: one for the people that are being lead and the other for the larger purpose of the enterprise.

In learning organizations, individuals are encouraged to develop their own strong visions of what the future looks like. Individuals in the organization are encouraged to share their personal models or pictures of the world so that others in the organization can appreciate and learn from diverse points of view. The individuals see themselves and their work as part of a larger system. Through continuous dialogue and discussion, team learning occurs so that a shared vision of the future and how to get there evolves. Just as these leadership capabilities of individuals within the organization must be developed, the organization itself must not only be committed to quality but be nurtured and supported by those in its highest levels. These actions do not just happen but rather are enhanced within a continuous learning philosophy and framework.

A Concluding Thought

Effective educational organizations with cultures committed to quality have to be made. They will not just happen. Effective organizations and effective individuals must be learners. The changes that are needed, even demanded, will not come without difficulty. Perseverance will be needed. Perhaps the best example of leadership for the type of change that emerges as a result of personal commitment to the concepts of continuous learning and improvement is found in the man who dedicated more than half a century to its concepts and faced decades of rejection—W. Edwards Deming. When asked why he had changed the principles of transformation over the years, Deming responded, "May I not learn?" (Walton, 1986, p.34). Leaders seeking to change education are challenged to ask themselves and their colleagues, "May we not learn?"

Effective organizations and effective individuals must be learners.

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Appendix A
The Seven Basic Tools

The Cause-and-Effect Diagram. This tool is also referred to as the fishbone diagram because of its shape, or the Ishikawa diagram because of its creator. The diagram is used to depict the relationship between some effect (the problem) and the possible causes of the problem.

The Flow Chart. This tool is the pictorial representation of the steps in a process. Flow charts allow examination of how steps in a process are related and how they might be improved.

The Pareto Chart. This tool is a special form of a bar graph that is used to chart the number of defects or problems associated with a particular issue over a specified period. The defects or problems are counted and displayed in bar graph form. The chart is then used to identify the defect or problems which need the most attention. Pareto charts are used to identify priorities.

The Run Chart. This tool is also referred to as a trend chart. Data are charted over a period of time by plotting points as they occur on a graph with a vertical axis and a horizontal axis. Run charts are simple to construct and use.

The Histogram. This tool is also a special form of bar graph that is used to measure how frequently something occurs. The histogram creates a pictorial representation of the distribution of the measures. The distribution is compared to the normal or bell curve distribution.

The Scatter Diagram. This tool is used to chart the relationship between two variables. It is used to test possible cause and effect relationships.

The Control Chart. This tool is a run chart with statistically determined upper and lower control limits. The chart is used to discover the variability in a process and to depict its level of stability.

Appendix B

Deming's Fourteen Points

1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.

2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.

3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.

4. End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.

5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.

6. Institute training on the job.

7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of production workers.

8. Drive out fear, so that everyone may work effectively for the company.

9. Break down barriers between departments. People in research, design, sales, and production must work as a team, to foresee problems of production and in use that may be encountered with the product or service.

10. Eliminate slogans, exhortations, and targets for the work force asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the work force.

11a. Eliminate work standards (quotas) on the factory floor. Substitute leadership.

11b. Eliminate management by objective. Eliminate management by numbers, numerical goals. Substitute leadership.

12a. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from sheer numbers to quality.

12b. Remove barriers that rob people in management and in engineering of their right to pride of workmanship. This means, *inter alia*, abolishment of the annual or merit rating and of management by objective.

13. Institute a vigorous program of education and self-improvement.

14. Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job.

Source: Deming, W. Edwards. 1986. *Out of the Crisis*. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study. pp. 23-24.

The Seven Deadly Diseases

1. Lack of constancy of purpose.
2. Emphasis on short-term profits.
3. Evaluation of performance, merit rating, or annual review.
4. Mobility of top management.
5. Running a company on visible figures alone ("counting the money").
6. Excessive medical costs.
7. Excessive costs of warranty, fueled by lawyers that work on contingency fees.

Obstacles

1. Neglect of long-range planning and transformation.
2. The supposition that solving problems, automation, gadgets, and new machinery will transform industry.
3. Search for examples.
4. Our problems are different.
5. Obsolescence in schools.
6. Reliance on quality control departments.
7. Blaming the workforce for problems.
8. Quality by inspection.
9. False starts.
10. The unmanned computer.
11. Meeting specifications.
12. Inadequate testing of prototypes.
13. "Anyone that comes to try to help us must understand all about our business."

Source: Walton, Mary. 1986. *The Deming Management Method.* New York: Perigee Books.

Appendix C: Design Team Members

Design Team Meeting on Total Quality Management for Restructuring Schools

Texas Association of School Administrators, Austin, Texas
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Appendix D: Description of Study Group Activities

The National LEADership Network Study Group on Restructuring Schools was formed at the November 1988 meeting of the LEAD Directors National LEADership Network in Washington, DC. Initially, the group examined the broad topic of restructuring education but their inquiry then focused on the special challenges involved in providing professional services to assist principals and other administrators in their leadership roles to work collaboratively with teachers, along with parents, school board members, other community members, to restructure individual schools and overall districts. The Phase I efforts of that group culminated in the publishing of a booklet, *Developing Leaders for Restructuring Schools: New Habits of Mind and Heart*. The publication, reprinted by several LEAD Centers throughout the country, was also one of the books published by the Government Printing Office during the year following the initial printing in December, 1990, that sold the most copies across the country.

After 1990, the Study Group on Restructuring Schools continued to meet at its annual meeting and other network events to explore issues related to restructuring that would build upon the work already initiated in their Phase I effort. With a particular emphasis on restructuring within the context of the whole system, the Study Group examined the role that the Total Quality Management initiated by W. Edwards Deming in concert with others (e.g., Juran, Crosby) was making toward the overall focus on systemic change and school reform. The group was also interested in looking into the work that Peter Senge had contributed to the Quality Move-

ment in its emphasis upon the development of the kind of learning organization where opportunities to enhance the creativity of all participants become a reality.

At the 1991 American Association of School Administrators annual meeting in San Diego, a core group of study group members in attendance at this annual conference sketched out a concept for a publication that would address these issues and presented it in proposal form to the other members of the study group not present at that meeting. As a result of the favorable reception that the proposal received from the other study group members, the Study Group on Restructuring Schools planned to meet in Austin for a design team meeting at the Texas Association of School Administrators, where the Texas LEAD Center is housed and with which the center is directly affiliated. The content of this publication represents the research, study and reflections of the design team group. As in Peter Senge's concept of the learning organization, the study group went on its own journey—an odyssey in its own right—to begin to understand how the thinking of Deming and others in the Quality Movement builds upon their earlier work in *Developing Leaders for Restructuring Schools* to lend both credence to and enhance the philosophy of a systemic approach to school reform in the 90s.

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